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Response to Comments Background Document for the Third Third Land Disposal Restrictions Proposed Rule November 22, 1989 (54 FR 48372) Volume 2-3. Capacity Related Comments

ICF, Inc., Fairfax, VA

Prepared for:

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RESPONSE TO COMMENTS BACKGROUND DOCUMENT FOR THE THIRD THIRD LAND DISPOSAL RESTRICTIONS PROPOSED RULE NOVEMBER 22, 1989 (54 FR 48372)

Volume 2-3
Capacity Related Comments

May 8, 1990

Prepared for:

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NOVEMBER 22, 1989 (54 FR 48372)
VOLUME 2
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MAY 8, 1990

TABLE OF CONTENTS

Page

VOLUME 2-1:

1. INTRODUCTION 1-1

2. COMBUSTION 2-1

  2.1 EPA's Capacity Analysis Methodology Is Questionable 2-2

  2.2 EPA Under-Estimated Available Combustion Capacity 2-13

  2.3 EPA Over-Estimated Available Combustion Capacity 2-58

  2.4 EPA Did Not Include Capacity Scheduled To Come On-Line In the Future In the Available Capacity Estimate 2-72

  2.5 Miscellaneous 2-76

3. D001 IGNITABLE CHARACTERISTIC WASTES 3-1

  3.1 EPA Under-Estimated Available Capacity for D001, Thus A Variance Is Unjustified 3-2

  3.2 Inadequate Capacity Exists To Treat D001, Thus A Variance is Justified 3-21

  3.3 EPA's Required Capacity Estimate is Questionable 3-25

  3.4 Clarification of the Definition For D001 Sludges and Solids Is Needed 3-36

4. D002 CORROSIVE CHARACTERISTIC WASTES 4-1

  4.1 A Two-Year National Capacity Variance For D002 Wastewaters Is Requested If EPA Promulgates Either The Tighter Limit On pH Or The Proposed Requirement That The Neutralization Process Result In The Generation Of Insoluble Salts 4-2

  4.2 A Capacity Problem Will Arise For Corrosive Organic Wastewaters If EPA Does Not Acknowledge Incineration As An Appropriate Deactivation/Neutralization Process 4-9

  4.3 Data Submittal Relating To D002 Corrosive Wastewaters 4-11

5. D003 REACTIVE CHARACTERISTIC WASTES 5-1

  5.1 Recommendation For Variance For D003 Explosive Reactive Wastes 5-2

  5.2 Request For A National Capacity Variance For D003 Cyanide Wastewaters 5-9

  5.3 EPA Must Not Promulgate A Capacity Variance For D003 Sulfide Wastes 5-11

6. ARSENIC AND SELENIUM WASTES (D004, D010, K031, K084, K101, K102, P010, P011, P012, P036, P038, P103, P114, U136, U204, U205) 6-1

  6.1 No Variance Needed If More Appropriate BDAT Selected 6-2

  6.2 Support Variances For Arsenic And Selenium Nonwastewaters Requiring Vitrification 6-11

  6.3 Available Capacity For Vitrification 6-19

7. LEAD (D008, P110, U114, U145, U146, K069, K100) AND K061 WASTES 7-1

  7.1 Insufficient Capacity to Treat Slag and Matte Generated by Secondary Smelters 7-4

  7.2 Insufficient Stabilization Capacity for D008 Nonwastewaters 7-54

  7.3 Insufficient Thermal Recovery Capacity For D008 Nonwastewaters 7-68

  7.4 Inadequate Capacity For Lead Nonwastewater Treatment 7-117

  7.5 Capacity Variance Requests for Spent Batteries and Battery Parts Used as Lead Feedstocks in Secondary Smelters 7-123

  7.6 Insufficient High Zinc K061 Nonwastewater HTMR Capacity 7-154

  7.7 Capacity Variance Requests for K061 Wastewater 7-165

  7.8 Underestimation of EP Toxic Waste Quantity From the Foundry Industry and Availability of Adequate Treatment Capacity for This Waste 7-175

  7.9 Capacity Variance Request for the Blast Waste Generated From Removal of Lead-Based Paint From Steel Structures 7-183

  7.10 The Stabilization Standard for K069 Nonwastewater Calcium Sulfate Subcategory Cannot Be Achieved And Therefore Requires A Capacity Variance 7-193

  7.11 Data Submittal On Generation Of K069 In Response to Statement By EPA . . 7-197

  7.12 Miscellaneous Data Submissions 7-199

VOLUME 2-2:

8. MERCURY WASTES (D009, K071, K106, P065, P092 AND U151) 8-1

    8.1 Agreement With The National Capacity Variance For Retortable Mercury Wastes 8-2

    8.2 Available Mercury Retorting Capacity Is Little To None And Should Not Be BDAT 8-18

    8.3 The Variance Should Be Extended To Both The High And Low Subcategories Of K071 8-25

    8.4 Certain High Concentration Mercury Wastes Do Not Require A Variance 8-29

9. OTHER METALS (D005, D006, D007) 9-1

    9.1 Barium (D005 Wastes) 9-1

        9.1.1 Capacity To Treat D005 Wastes Is Questionable; Consequently EPA Should Review The Need For A Two-Year National Capacity Variance 9-2

        9.1.2 Barium (D005) Wastes Containing High Levels Of Organics Do Exist 9-8

    9.2 Cadmium (D006 Wastes) 9-12

        9.2.1 Sufficient Capacity Exists To Treat Cadmium Batteries, Consequently A Two-Year National Capacity Variance Is Unwarranted 9-13

        9.2.2 Insufficient Capacity Exists To Treat Cadmium Batteries, Consequently A Two-Year National Capacity Variance Is Justified 9-21

        9.2.3 Inadequate Capacity Exists To Treat the Universe of D006 Wastewaters and Nonwastewaters, Consequently EPA Should Grant D006 Wastes a National Capacity Variance 9-24

        9.2.4 No Commercial Method Exists For Treating D006 Household Batteries, However, Thermal Treatment is the Best Process Available 9-29

    9.3 D007 - Chromium 9-31

        9.3.1 Insufficient Capacity Exists To Treat D007 Wastes, Consequently, A National Capacity Variance Is Warranted 9-32

10. F, K, U, AND P WASTES 10-1

    10.1 No Treatment Facilities Will Accept F024 Waste Due To Dioxins And Furans Treatment Standard 10-2

10.2 The Cyanide Standard For F019 Could Be Based On Alkaline Chlorination Instead Of Wet-Air Oxidation, Eliminating The Need For A Variance Since The Former Is Available While The Latter Is Not 10-15

10.3 Treatment For F006 Cyanide Nonwastewaters Is Not Available 10-18

10.4 F006 Wastewaters Require A Capacity Variance Due To EPA's Underestimation Of The Total Volume Requiring Treatment Capacity 10-24

10.5 Concurrence With EPA That No Variance Is Needed For U188 Wastewaters or Nonwastewaters 10-29

10.6 No Treatment Facilities Will Accept U105 And U106 Wastewaters And Nonwastewaters 10-31

10.7 Few, If Any, Treatment Facilities Will Be Permitted To Handle K083 Nonwastewaters Or U075 And U121 Wastewaters And Nonwastewaters In Time For This Rulemaking, Necessitating Variances Until Permitting For These Wastes Is Completed 10-33

10.8 An Incinerator For The explosives Industry Is Soon To Be On-Line 10-37

11. K048-K052 WASTES 11-1

11.1 Questionable Availability Of Commercial Incineration Capacity For K048-K052 Wastes 11-2

11.2 Data Submissions Concerning K048-K052 Wastes Management Practices And Volumes Requiring Commercial Treatment Capacity 11-15

11.3 Capacity is Unavailable For Treatment of K048-K052 Incineration Residues Due To The Proposed Treatment Standards 11-42

12. DEEPWELL INJECTED WASTES 12-1

12.1 D002 Nonwastewaters Are Deepwell Injected 12-3

12.2 D003 (Reactive Cyanide) Nonwastewaters Are Deepwell Injected 12-8

12.3 D007 Nonwastewaters Are Deepwell Injected 12-13

12.4 K014 Nonwastewaters Are Deepwell Injected 12-15

12.5 A Variance Is Necessary For D002 Wastes With A pH Less Than 2.0 12-21

12.6 Difficulty In Isolating Injected P & U Wastes For Treatment By The Effective Date Necessitates A Variance 12-27

12.7 EPA's Methodology For Determining P & U Volumes Was Flawed, Resulting In Low Volumes That Did Not Reflect The Real Need For A Capacity Variance 12-31

12.8 Support The D002, D003, D007, And K011/K013/K014 Deepwell Injection Wastewater Variances 12-42

12.9 Treatment Capacity For Deepwell Injected D004 (EP Toxic For Arsenic) Wastewaters 12-53

12.10 Capacity Is unavailable For Certain Deepwell Injected D010 (EP Toxic For Selenium) Wastewaters Since Proposed Treatment Cannot Meet The Standard 12-63

12.11 U115 (Ethylene Oxide) Wastewaters Are Deepwell Injected And Requires A Variance 12-70

12.12 Disagreement With The D002 And D003 Wastewater Variances 12-74

12.13 No-Migration Petitions For UIC Facilities And Third Third Effective Ban Dates . 12-79

12.14 Scrubber Water Blowdown Water Cannot Meet Any Of The Treatment Standards And Requires Either Of Two Possible Variance Scenarios, A Separate Treatability Group, Or Approval Of A No-Migration Petition 12-87

12.15 EPA's Assumption That F025, U077, And U078 Wastewaters And Nonwastewaters Are Not Deepwell Injected Is Questionable 12-92

12.16 Proposed Standard For D002 Wastewaters Will Result In Poor Utilization Of Surface Disposal Capacity 12-94

12.17 Clarification Of Table III.B.2(b) 12-96

12.18 Additional Deepwell Volume Data Submissions 12-99

VOLUME 2-3:

13. MULTI-SOURCE LEACHATE 13-1

13.1 EPA Needs To Refine Its Estimates Of Required Capacity 13-2

13.2 EPA Should Grant A Capacity Variance To Surface-Disposed Multi-Source Leachate Wastewaters 13-17

13.3 EPA Should Not Grant A Capacity Variance To Surface-Disposed Multi-Source Leachate Nonwastewaters 13-25

13.4 EPA's Variance Determinations For Multi-Source Leachate Are Justified 13-27

13.5 Miscellaneous 13-32

14. MIXED RADIOACTIVE WASTES 14-1

14.1 Support Variance 14-2

14.2 Oppose Variance 14-52

14.3 Clarify Variance 14-58

15. LAB PACKS 15-1

15.1 Most Treatment, Storage and Disposal (TSD) Facilities Will Not Accept Small Volume Wastes, Such as Lab Packs 15-2

15.2 Need For A Variance for Lab Packs Containing Volatile Metals 15-9

15.3 Capacity Data Submission 15-13

16. SOIL AND DEBRIS 16-1

16.1 Support Proposed Variance For Combustion, Wet-Air Oxidation, Vitrification and Mercury Retorting 16-3

16.2 Need For Variance For Chromium - Contaminated Soil and Debris 16-16

16.3 Need For Variance For Lead Treatment 16-69

16.4 Need For Variance For All Soil And Debris 16-80

16.5 Request for an Exemption For Vanadium - Contaminated Soil and Debris . . . 16-87

16.6 Disagreement With Variance 16-92

16.7 Need For Certain Debris Capacity Unaccounted For In Analysis 16-99

16.8 Capacity Estimations For Foundries 16-104

17. MISCELLANEOUS CAPACITY COMMENTS 17-1

17.1 Methodology 17-2

17.2 Dilution 17-12

17.3 Treatment Standards for Characteristic Wastes 17-53

17.4 Other Treatment Issues 17-74

17.5 Variance Requests 17-80

17.6 Data Submissions 17-83

CHAPTER 13

MULTI-SOURCE LEACHATE

Fifteen commenters addressed the capacity determinations for multi-source leachate presented in the proposed rule (CH2M-Hill (173), E.I. DuPont de Nemours (DuPont;189), BP America Inc. (BP;98), International Technology Corporation (ITC;90), U.S Air Force Plant #44 (135), Occidental Chemical Corporation (OCC;138), Union Carbide (190), U.S. Ecology, Inc. (226), Chemical Manufacturers Association (CMA;L0007), Ash Grove Cement Company (171), Vulcan Materials Company (Vulcan;128), Gulf Coast Waste Disposal Authority (151), Waste Management, Inc. and Chem Waste Management Inc (159), Disposal Systems, Inc. (261), and Envirosafe Management Services, Inc. (81)). In particular, commenters addressed five major issues:

- EPA Needs to Refine Its Estimates of Required Capacity;
- EPA Should Grant a Capacity Variance to Surface-Disposed Multi-Source Leachate Wastewaters;
- EPA Should Not Grant a Variance to Surface-Disposed Multi-Source Leachate Nonwastewaters;
- EPA's Variance Determinations for Multi-Source Leachate Are Justified; and
- Miscellaneous.

13.1 EPA Needs to Refine Its Estimates of Required Capacity

Summary:

Three commenters (CH2M-Hill (173), Dupont (189), and BP (98)) addressed this issue. The CH2M-Hill comments (173) were submitted on behalf of the Hazardous Waste Leachate Committee comprised of the following five companies: Chemical Waste Management; Waste Management of North America; Browning Ferris Industries/CECOS; E.I. DuPont de Nemours; and Dow Chemical Company.

Two commenters (CH2M-Hill (173), and Dupont (189)) expressed concern that the proposed capacity variance for multi-source leachate nonwastewaters may not be granted due to new solids incineration capacity which may come on-line by May 8, 1990, and due to lower estimates of demand for incineration of wastes covered by previous variances (i.e., K048-K052). Specifically, these commenters are concerned that EPA is underestimating the volumes of leachate generated as part of ground-water corrective actions. They believe that volumes of solid/sludge residuals from treatment of leachate-contaminated ground water, that were not accounted for in the proposed rule, may be critical to ensure that estimates of required capacity exceed available capacity and that, consequently, the Agency confirm the proposed variance for multi-source leachate nonwastewaters in the final rule. The commenters urge EPA to consider whether the presumed incineration capacity at four facilities will in fact be available by May 8, 1990. Furthermore, the commenters stated that EPA should consider that incineration capacity may be available for non-banned wastes that may pose a greater risk to the environment than multi-source leachate.

One commenter (BP (98)) stated that EPA has failed to include several large volumes of waste in preparing its capacity analysis of multi-source leachate.

Response:

EPA has conducted follow-up evaluations to determine whether additional volumes of multi-source leachate residuals are surface-disposed. The results were incorporated into the final rule. Based on this analysis, EPA identified an additional 7 million gallons of surface-disposed multi-source leachate. EPA also conducted a detailed analysis of incineration capacity. The results of this analysis are presented in Chapter 2, Combustion.

EPA did not examine volumes of wastewater residuals from treatment of contaminated ground water from RCRA corrective actions. EPA did not receive adequate data to quantify the volumes of such residuals that might be surface-disposed. Because the volumes of multi- source leachate nonwastewaters known to be surface disposed are sufficient to justify granting a two-year capacity variance to these wastes, the Agency concludes that the additional volumes of residuals from corrective action are not critical to its analysis.

Commenters:

The comments relevant to major issue 1 are presented in the following order:

- CH2M-Hill (173);
- E.I. Dupont de Nemours (Dupont;189); and
- BP America, Inc. (98).

Docket Number: LD12-00173

Commenter: CH2M-HILL

Comment:

F. THE NEED FOR A 2-YEAR CAPACITY VARIANCE FOR LEACHATE TREATMENT RESIDUALS

- The Committee strongly supports the proposed 2-year national capacity variance for non-wastewater leachate treatment residuals and has provided additional information in support of the variance.

VII. THE NEED FOR A 2-YEAR CAPACITY VARIANCE FOR LEACHATE TREATMENT RESIDUALS

The Leachate Committee strongly supports the proposed 2-year national capacity variance for non-wastewater leachate treatment residuals. The Agency based the variance on an analysis of incineration capacity. We are concerned that the Agency does not have complete information on the amount of leachate and groundwater treatment residuals generated nor on the status of solids incineration facilities available to treat these wastes and other wastes requiring incineration. and the comments that address that question. The inclusion of sludge drying and stabilization as a BDAT technology for management of non-wastewater leachate residuals will have minimal effect on the analysis because this technology is currently in place at only one facility.

Docket Number: LD12-00173 (continued)

Commenter: CH2M-HILL

Comment: (continued)

EPA May Be Underestimating the Volumes of "Leachate" Generated

The Third Third proposal enunciates the Agency's position that the definition of multi-source leachate extends to contaminated groundwater (54 Fed. Reg. 48462). As a result, the proposed leachate treatment standards will apply to substantial volumes of contaminated groundwater. We do not believe that this contaminated groundwater is fully accounted for in EPA's estimates of demand for treatment of either leachate wastewaters or leachate non-wastewaters.

Neither the TSDA survey nor the Generator survey clearly indicated that contaminated groundwater was to be included with waste volumes reported. It is likely that some active facilities included volumes of groundwater with overall volumes of wastewaters treated. Other active facilities, however, may have excluded those volumes. Still others may not have considered groundwater to be a "waste" within the terms of the surveys and may have excluded these volumes.

Facilities that are no longer actively managing hazardous waste may have been excluded from both the TSDR survey and the General survey, yet may be pumping and treating contaminated groundwater. EPA recognizes this possibility for leachate but indicates that the volumes are expected to be too small to affect capacity decisions. However, volumes of contaminated groundwater from inactive facilities could far exceed volumes of leachate.

Docket Number: LD12-00173 (continued)

Commenter: CH2M-HILL

Comment: (continued)

Volumes of Solid/Sludge Residuals from Treatment of Leachate-Contaminated Groundwater

The Third Third Capacity Background Document indicates that the proposed capacity variance for solids/sludges from leachate treatment would not be affected by including volumes from a number of facilities that produce such residuals but could not provide adequate quantification to EPA prior to the proposal. However, the Committee is concerned that the proposed capacity variance may be jeopardized by new solids incineration capacity which may come on-line in the next 6 months and by lower estimates of demand for incineration by previously varianced waste–most notably K048-052 petroleum refinery sludges. If this is true, then EPA must account for all potential sources of solids residuals, including facilities that treat contaminated groundwater. Omitting these facilities is appropriate only if it is clear that the capacity variance will be granted notwithstanding their volumes.

Docket Number: LD12-00173 (continued)

Commenter: CH2M-HILL

Comment: (continued)

Determination of Incineration Capacity

Based on our study of the Capacity Background documents, it appears that the determination of a final capacity variance for leachate treatment residuals will be critically dependent upon EPA's assumptions about capacity for incineration of solids and sludges, particularly at three or four new or currently inactive incinerators. We urge EPA to conduct its own evaluation of the readiness and real capacity available at these facilities.

In conducting its reviews, EPA should consider the fact that the RCRA Part B permit is not the only obstacle to operation of hazardous waste incinerators. States and localities also impose requirements that these facilities must satisfy. It is not unusual for states to have separate air emissions permit requirements that must be satisfied in addition to RCRA permit requirements. In some cases, full-scale operation of the facility depends on ancillary features such as dewatering equipment, storage areas or deep injection wells, all of which have an approval process separate from the incinerator itself. EPA's evaluation should consider all requirements that could affect the timing or amount of capacity available at each facility.

Although it cannot be determined specifically from either the proposed rule or the background documents, it appears that EPA may be including as "available" some capacity that is, in fact, unlikely to be available by May 1990:

- Rollins, Baton Rouge: It is unclear if EPA has considered the second kiln at this facility to be available in the 1990 time frame. Table 3-2 in the Commercial Treatment/Recovery Capacity Data Set (November 1989) indicates that the second kiln will be delayed until 1991-1992; however, Table 3-3 shows a large increase in capacity available in the 1989-1990 time frame (some 36 million gallons of solid/sludge incineration) at that facility. We believe that the 1991-92 start-up date is more appropriate.

- Alchem-Tron, Cleveland: Table 3-2 indicates that this facility is "currently burning", and that the RCRA permit has been granted. Although the facility has received a RCRA permit from Region V, the state of Ohio has a separate permitting process for hazardous waste incinerators. Alchem-Tron has not yet completed the state permit process and is not burning waste at this time. It is not clear whether the facility will be operating by May 1990. The Alchem-Tron incinerator represents 9.3 million gallons of solid/sludge incineration capacity.

Docket Number: LD12-00173 (continued)

Commenter: CH2M-HILL

Comment: (continued)

- Chemical Waste Management, Port Arthur, Texas: Information about this facility is classified as Confidential Business Information and therefore is not available for public review. We have, however, received information from Chemical Waste Management indicating that full-scale operation of this facility may be delayed because of inaction on an underground injection well no-migration petition. We believe the capacity of this facility will be approximately 12 million gallons/year for solids and sludges.

- LWD, Calvert City, Kentucky: Again, information about this facility is classified as Confidential. Earlier public reports, however, indicated that the permit process for the second kiln was lagging, and that start-up may be later than May 1990. We believe the capacity of this facility to be approximately 10.8 million gallons/year of solids/sludges.

Because each of these facilities represents a significant portion of the new solid/sludge incineration capacity needed to accommodate Third Third wastes, determining their real capacity and timing should be a priority for EPA.

Docket Number: LD12-00173 (continued)

Commenter: CH2M-HILL

Comment: (continued)

Competition for Incineration Capacity

EPA's capacity methodology assumes that 100 percent of the solid/sludge incineration capacity is available for land banned wastes, either from Third Third or previous land ban rules. EPA should recognize that some currently non-banned (and even non-hazardous) wastes may pose a greater risk than many of the land banned wastes. These non-banned wastes warrant consideration in the allocation of scarce incineration capacity.

The need to consider non-banned wastes is particularly clear where there is the potential that assigning leachate treatment residuals to incineration would displace more toxic non-land banned wastes. By definition, these are treatment residuals, not process wastes. Their toxicity and concentrations of hazardous constituents are considerably less than many non-hazardous wastestreams. We believe that there are numerous instances where non-hazardous or non-land banned wastes are currently being incinerated. These wastes should continue to utilize scarce solids incineration capacity and not be displaced by leachate treatment residuals.

Docket Number: LD12-00189

Commenter: E.I. DuPont De Nemours & Company

Comment:

1. DU PONT SUPPORTS THE PROPOSED TWO-YEAR NATIONAL CAPACITY VARIANCE ON INCINERATION OF LEACHATE TREATMENT RESIDUALS

Du Pont has contributed data and analyses, and generally participated, in EPA's "leachate" study. These data and the various deliberations during the course of the study were used by the Agency to propose the subject two-year national variance regarding the incineration of leachate treatment residuals. Du Pont urges the Agency to finalize this two-year national capacity variance.

Docket Number: LD12-00189 (continued)

Commenter: E.I. DuPont De Nemours & Company

Comment: (continued)

2. ACCURACY OF EPA ESTIMATES OF DEMAND FOR LEACHATE/GROUNDWATER TREATMENT AND IMPACTS ON ESTIMATED SOLIDS RESIDUALS

A. EPA MAY BE UNDERESTIMATING THE VOLUMES OF "LEACHATE" GENERATED

The "Third-Third" proposal enunciates the Agency's position that the definition of multisource leachate extends to contaminated groundwater (54 Fed. Reg. 48462). As a result, the proposed leachate treatment standards will apply to substantial volumes of contaminated groundwater requiring remediation. Du Pont does not believe that this contaminated groundwater is fully accounted for in EPA's estimates of demand for treatment of either leachate wastewaters or leachate nonwastewaters.

- Neither EPA's TSDR survey nor the "Generator" survey clearly indicated that contaminated groundwater was to be included with the waste volumes reported. It is likely that some active facilities that are required to treat contaminated groundwater through a state or other enforcement mechanism included volumes of groundwater with overall volumes of wastewaters treated. This is what was done at the Chambers Works facility. Still others may not have considered groundwater to be a RCRA "hazardous waste" within the terms of the surveys, and may have excluded these volumes.

- Facilities that are no longer actively managing hazardous waste may have been excluded from both the TSDR and Generator surveys, yet may be pumping and treating contaminated groundwater. EPA recognizes this possibility for leachate, per se, in the "Third-Third" proposal, but indicates that the volumes are expected to be too small to affect capacity decisions. However, volumes of contaminated groundwater from inactive facilities could far exceed volumes of leachate. Indeed, for many older facilities with unlined disposal units, the only form in which "leachate" is collected is as contaminated groundwater.

Docket Number: LD12-00189 (continued)

Commenter: E.I. DuPont De Nemours & Company

Comment: (continued)

A. DU PONT REQUESTS THAT EPA UPDATE/CONDUCT ITS OWN INDEPENDENT ANALYSIS OF THE AVAILABILITY OF TREATMENT CAPACITY FOR LEACHATE TREATMENT RESIDUALS

Based on our review of the Capacity Background Documents for this "Third-Third" proposal, it appears that the determination of a final capacity variance for leachate treatment residuals will be critically dependent upon EPA's assumptions regarding capacity for incineration of solids and sludges. This will be particularly important for the three or four new or currently inactive incinerators that reportedly may be available by May 8, 1990. Du Pont urges the Agency to conduct and/or update its own evaluation of the readiness and "real" capacity availability as of May 8, 1990 at these facilities.

In conducting its reviews, EPA should consider the fact that the RCRA Part B permit for these facilities is not the only obstacle to operation of hazardous waste incinerators. States and localities also impose requirements that these facilities must satisfy. For example, it is not unusual for states to have separate air emissions permit requirements that must be satisified in addition to the RCRA Part B permit requirements. In some cases, full scale operation of the facility depends on ancillary features such as dewatering equipment, storage areas or underground injection wells that require regulatory agency approval of the appropriate facilities totally separate from the incinerator. EPA's evaluation should consider all requirements that could affect the timing or amount of capacity available at each facility.

Although we are unable to determine site-specific information regarding capacity availability from either the proposed rule or the background documents, it appears that the Agency may be including as "available" some capacity that is, in our view, unlikely to be available by May 8, 1990.

- Rollins, Baton Rouge, LA -- It is unclear if EPA has considered the second kiln at this facility to be available in the 1990 timeframe. Table 3-2 in the Commercial Treatment/Recovery Capacity Data Set (November 1989) indicates that the second kiln will be delayed until 1991-1992. Table 3-3, however, shows a large increase in

Docket Number: LD12-00189 (continued)

Commenter: E.I. DuPont De Nemours & Company

Comment: (continued)

capacity available in the 1989-1990 timeframe (some 36 million gallons of solid/sludge incineration) at that facility. We believe that the 1991-1992 start-up date is more appropriate. Du Pont requests that EPA carefully evaluate whether the 36 million gallons of capacity will be available by May 8, 1990.

- Alchem-Tron, Cleveland, OH -- Table 3-2 of the Commercial Treatment/Recovery Capacity Data Set (November 1989) indicates that this facility is "currently burning" and that the RCRA permit has been granted. Although the facility has received a RCRA permit from EPA Region V, the State of Ohio has a separate permitting process for hazardous waste incinerators. Based on information available to Du Pont, we believe that Alchem-Tron has not yet completed the state permit process and is not burning waste at this time. It is not clear whether this facility will be operating by May of 1990. The Alchem-Tron incinerator represents 9.3 million gallons of solid/sludge incineration capacity. Du Pont requests that EPA reevaluate this facility and revise its calculations of the "capacity available" on May 8, 1990, if appropriate.

- Chemical Waste Management, Port Arthur, TX -- Information about this facility is classified as "Confidential Business Information", and therefore is not available for public review. We have, however, received information from Chemical Waste Management indicating that the full scale operation of this facility may be delayed because of inaction on an underground injection well "no migration" petition important to the operation of this incinerator. We believe that the capacity of this facility to be approximately 12 million gallons/year for solids and sludges. Du Pont requests that EPA reconfirm that this facility will be fully operational at the estimated solids capacity of 12 million gallons/year by May 8, 1990.

- LWD, Calvert City, KY -- Again, information about this facility is classified as "Confidential Business Information." Earlier public reports, however, indicated that the permit process for the second kiln was lagging, and that start up may be later than May 1990. We

Docket Number: LD12-00189 (continued)

Commenter: E.I. DuPont De Nemours & Company

Comment: (continued)

believe the capacity of this facility to be approximately 11 million gallons/year of solids/sludges. Du Pont also requests that the Agency specifically reconfirm that this facility will be on-line at its estimated capacity of 11 million gallons/year by May 8, 1990.

Du Pont submits that because each of these facilities represents a significant portion of the new solid/sludge incineration capacity needed to accommodate "Third-Third" wastes, detemining their "real" capacity and the timing of this capacity availability should be a major priority for EPA.

Docket Number: LD12-00189 (continued)

Commenter: E.I. DuPont De Nemours & Company

Comment: (continued)

4. EPA SHOULD CONSIDER OTHER THAN "LAND BANNED" WASTES WHEN EVALUATING INCINERATION CAPACITY

EPA's capacity methodology assumes that 100% of the solids/sludge incineration capacity is available for land banned wastes, either from the "Third-Third" or previous land ban rules. EPA should recognize that some currently non-banned (and even non-hazardous) wastes may pose a greater risk than many of the land banned wastes. These wastes warrant consideration in the allocation of scarce incineration capacity.

This is particularly clear where there is the potential that assigning leachate treatment residuals to incineration would displace more toxic, non-land banned wastes. By definition, these are treatment residuals, not process wastes. Their toxicity and concentrations of hazardous constituents are considerably less than many non-hazardous process waste streams. For example, in 1987 Du Pont facilities sent nearly 6.4 million pounds of nonhazardous waste to commercial hazardous waste incinerators. We believe that there are numerous instances where non-hazardous or non-land banned wastes are currently being incinerated. These wastes should continue to utilize scarce solids incineration capacity and not be displaced by leachate treatment residuals.

Docket Number: LD12-00098

Commenter: BP America, Inc.

Comment:

IX. EPA has failed to include several large volume categories of waste in preparing its capacity analysis.

EPA has either failed to include or substantially underestimated the volume of several categories of waste in developing data to determine if alternative treatment is available.

- o EPA has not quantified the amount of waste that will need treatment due to corrective action activities probably partly because there remains considerable uncertainty as to the amount of material that will need treatment as a result of corrective action activities.

- o EPA recognizes that the volumes estimated for multi-source leachate are based on a limited data set and are therefore most likely considerably less than the actual volumes needing alternative treatment capacity.

13.2 EPA Should Grant a Capacity Variance to Surface-Disposed Multi-Source Leachate Wastewaters

Summary:

Six commenters (ITC (90), U.S. Air Force (135), OCC (138), Union Carbide (190), U.S. Ecology (226), and CMA (L0007)) stated that EPA should grant a capacity variance to surface-disposed multi-source leachate wastewaters. These commenters believe that EPA grossly underestimated the volumes of multi-source leachate wastewaters from ground-water corrective actions and that consequently, EPA's assertion that there are very low volumes of surface-disposed multi-source leachate wastewaters is erroneous. One commenter (U.S. Ecology (226)) provided data on the volume of contaminated ground water from a site in need of remedial action.

Response:

EPA did not include volumes of surface-disposed multi-source leachate wastewaters from ground-water corrective actions because no commenter submitted data providing evidence of volumes of multi-source leachate wastewaters that are surface disposed. One commenter provided data on the size of a contaminated plume. However, this commenter indicated that they anticipated deep well disposition of the contaminated ground water and not surface disposal. In addition, it was not clear whether remedial action had actually started at that site. EPA also believes that, by law, treatment of multi-source leachate wastewaters will occur in retrofitted surface impoundments satisfying retrofit requirements (see § 3005(j)(ii)) or in tanks. Neither of these alternatives increase required capacity for surface-disposed multi-source leachate. Thus, EPA concludes that there is sufficient alternative treatment capacity for surface-disposed multi-source leachate wastewaters and consequently is not granting a capacity variance to these wastes.

Commenters:

The comments relevant to major issue 2 are presented in the following order:

- International Technology Corporation (ITC;90);
- U.S. Air Force Plant #44 (135);
- Occidental Chemical Corporation (OCC;138);
- Union Carbide (190);
- U.S. Ecology, Inc. (226); and
- Chemical Manufacturers Association (CMA;L0007).

Docket Number: LD12-00090

Commenter: International Technology Corporation

Comment:

Secondly, EPA has stated that "Ground water contaminated with multi-source leachate must comply with the multi-source leachate standards "(ibid). This extension of the LDR program to a large volume of often marginally contaminated material poses several problems. IT requests the Agency clarify its term "contaminated with". Does this mean any change in ground water quality attributed to a waste management unit containing listed or characteristic wastes or is it limited to impact by hazardous constituents listed in 40 CFR 264 Appendix IX? Is there a concentration limit that applies? Based upon the recentness of the Chemical Waste Management v. EPA [869F.2d at 1539-40 (D.C. Cir 1989)] case and the number of existing and proposed ground water remediation actions, IT believes that EPA has grossly underestimated the volume of wastewater and non-wastewater wastes which will fall under the multi-source leachate standards. Therefore, IT requests that EPA re-evaluate whether their estimate of "very low volumes of surface-disposed multi-source leachate wastewaters" adequately addresses ground water and demonstrate where sufficient capacity exists or include multi-source leachate wastewaters in a national capacity variance.

Docket Number: LD12-00135

Commenter: U.S. Air Force Plant #44

Comment:

5. Due to the overwhelming complexity of the multi-source leach
issue, the agency needs to seriously consider a two-year natio
capacity variance for both wastewaters and nonwastewaters.
this time, only the nonwastewater category is being consider
however, due to the inadequate identification of a reasonable
practical approach, it would be best to defer action at this ti

Docket Number: LD12-00138

Commenter: Occidental Chemical Corporation

Comment:

E. The Decision To Grant a Two-Year National Capacity Variance for Multi-Source Leachate Nonwastewaters in the Form of Non-Atomizable Sludges and Solids Is Correct, Particularly in Light of Corrective Action Activity.

EPA is correct in its finding that there is inadequate incineration capacity to treat multi-source leachate nonwastewaters in the form of non-atomizable sludges and solids. Wastes from corrective actions will exacerbate the capacity shortage.

In the decision not to grant a capacity variance for multi-source leachate wastewater, however, EPA erroneously concluded that the amount of such wastewater is small since it is primarily leachate from landfills. The definition of leachate can also encompass the leakage of multiple hazardous wastes or spilled commercial chemical products from solid waste management units, as well as groundwater contaminated by such leakage and leaching through water infiltration. What this means is that, as corrective action programs progress, there will be increased amounts of both solids contaminated by leachate and leachate-contaminated groundwaters that will have to be managed. While it is unlikely that tank-type leachate treatment systems will be installed, it is also very likely that these systems will produce additional quantities of derived-from multi-source leachate solids. Consequently, the volume of solids will be much higher than EPA's existing data may indicate, and the need for the national capacity variance for solids even more compelling.

Docket Number: LD12-00190

Commenter: Union Carbide Chemicals and Plastics Company, Inc.

Comment:

A National Capacity Variance Should be Granted for Multi-sour Leachate Wastewater - The Agency granted a national capacity variance for non-wastewater multi-source leachate (due to lack incineration capacity) but did not grant one for multi-source leachate wastewater (due to low volumes). UCC believes that t Agency only accounted for multi-source leachate wastewaters fr landfills when they evaluated the capacity issue and failed to consider the enormous amount of groundwaters from RCRA correct action activities as well as from CERCLA clean ups that would qualify as multi-source leachate wastewaters. Based on this fact, UCC believes that the Agency should grant a two year national capacity variance for multi-source leachate wastewater

Docket Number: LD12-00226

Commenter: US Ecology, Inc.

Comment:

MULTI SOURCE LEACHATE RESIDUES

Based upon the agency's definition, it is US Ecology's feeling that the agency grossly underestimated the volume of "multisource leachate residues." The volumes of contaminated groundwater from old closed landfills and surface impoundments have been underestimated. For example, US Ecology has entered into an agreement with the regulatory agency to remediate a non-potable aquifer that was potentially contaminated with various constituents from past unlined landfills and storage impoundments. In an effort to verify this underestimation we calculated the plume volume that requires treatment. The software program Surfer was employed to calculate the volume of water in the plume using the 15 mg/l TOC contour line as the plume determining criteria. Surfer calculates the area within a specified grid using the average respective depth and pososity for the grid. Each grid was 50 ft x 50 ft. Also, an additional volume calculation was performed using the 5 mg/l TOC contour as the limiting criteria.

The volume of contaminate groundwater estimated was approximately 60,000,000 gallons for the 15 mg/l TOC contour and 98,000,000 gallons for the 5 mg/l contour.

This isolated plume is relatively small, approximately 25 to 30 acres, and seems to indicate that the 13.4 million gallons per year, estimated by EPA, is too small.

US Ecology anticipates restoration of the aquifer by deepwell disposition of the contaminated groundwater and flushing the contaminated area with fresh water.

We support the two year variance for underground injection of multisource leachate residues. US Ecology strongly suggests that the agency grant a two year variance for surface disposed multisource leachate wastewaters.

Docket Number: LD12-L0007

Commenter: Chemical Manufacturers Association (CMA)

Comment:

F. The Decision To Grant A Two-Year National Capacity Variance For Multi-Source Leachate Nonwastewaters In The Form Of Non-Atomizable Sludges and Solids Is Correct, Particularly in Light of Corrective Action Activity.

EPA is correct in its finding that inadequate incineration capacity exists to treat multi-source leachate nonwastewaters in the form of non-atomizable sludges and solids. Wastes from corrective actions will only exacerbate the capacity shortage.

In the Agency's decision to withhold a capacity variance for multi-source leachate wastewater, however, EPA erroneously concluded that the amount of such wastewater is small since it is primarily leachate from landfills. The definition of leachate can also encompass the leakage of multiple hazardous wastes or spilled commercial chemical products from solid waste management units, as well as groundwater contaminated by such leakage and leaching through water infiltration. Therefore, as corrective action programs progress, increasing amounts of both solids contaminated by leachate and leachate-contaminated groundwaters will have to be managed. While it is likely that such leachate will be treated in tank-type systems, it is also very likely that these systems will themselves produce additional quantities of derived-from multi-source leachate solids. Consequently, the ultimate volume of solids requiring BDAT treatment will be much higher than EPA's existing data may indicate, and the need for the national capacity variance for solids even more compelling.

13.3 EPA Should Not Grant a Capacity Variance to Surface-Disposed Multi-Source Leachate Nonwastewaters

Summary:

One commenter (Ash Grove Cement Company (171)) disagreed with EPA's proposal to grant a capacity variance to surface-disposed multi-source leachate nonwastewaters in the form of non-atomizable sludges and solids. This commenter contends that they have patented an effective method to recover energy from non-atomizable solids and that there is ample cement kiln capacity for these wastes.

Response:

EPA has reviewed the combustion capacity at that facility. The results are discussed in Chapter 2, Combustion. EPA has also identified additional volumes of multi-source leachate nonwastewaters that require incineration capacity. Based on these results, EPA confirms that there is insufficient alternative treatment capacity for surface-disposed multi-source leachate nonwastewaters and is granting a two-year capacity variance to these wastes.

Commenters:

The comments relevant to major issue 3 are presented in the following order:

- Ash Grove Cement Company (171).

Docket Number: LD12-00171

Commenter: Ash Grove Cement Company

Comment:

4. We disagree with EPA's proposal to grant national capacity variances for certain wastes. First, EPA proposes a two year variance for certain "nonatomizable" sludges and solids (54 Fed. Reg. 48475) on the basis that there is not adequate combustion capacity. In fact, as pointed out in Attachment B, Ash Grove and Cadence have recently patented an effective method to recover energy from nonatomizable solids. This patented solids energy recovery program is in full scale operation in three states -- accounting for 90,000 tons of annual capacity -- and is available for use by any other cement kiln. EPA has considered the availability of "ample treatment capacity in liquid injection furnaces, and in boilers and industrial furnaces" (54 Fed. Reg. 46474, column 3) in deciding not to extend the variance to atomizable solids. The availability of ample cement kiln capacity for nonatomizable solids likewise eliminates the need for any variance for these wastes.

13.4 EPA's Variance Determinations for Multi-Source Leachate are Justified

Summary:

Four commenters (Vulcan (128), Gulf Coast Waste Disposal (151), WMI (159), and Disposal Systems (261)) agreed with EPA's proposed variance determinations for deep-well injected multi-source leachate wastewaters and surface-disposed multi-source leachate nonwastewaters. One of these commenters (Gulf Coast Waste Disposal (151)) submitted data on volumes of underground injected multi-source leachate.

Response:

EPA acknowledges these comments and is granting a two-year capacity variance to surface-disposed multi-source leachate nonwastewaters and to deep-well injected multi-source leachate wastewaters and nonwastewaters. EPA is updating its estimates of the volumes of multi-source leachate wastewaters that are deep well injected to include the data submitted by Gulf Coast Waste Disposal.

Commenters:

The comments relevant to major issue 4 are presented in the following order:

- Vulcan Materials Company (128);
- Gulf Coast Waste Disposal Authority (151);
- Waste Management, Inc. and Chem Waste Management Inc. (159); and
- Disposal Systems, Inc. (261).

Docket Number: LD12-00128

Commenter: Vulcan Materials Company

Comment:

Multi-Source Leachate

The Agency has also proposed a two-year national capacity variance for the deep well disposal of multi-stage leachate. Again, Vulcan concurs with the Agency's decision and wishes to emphasize that most of these leachates contain very low levels of hazardous constituents and the continued deep well disposal would not present a potential threat to the public health or the environment.

Docket Number: LD12-00151

Commenter: Gulf Coast Waste Disposal Authority

Comment:

III.B.2.a
National capacity variances

The Agency has proposed a 2-year national capacity variance for multi-source leachate wastewaters that are currently disposed of by underground injection.

GCA strongly supports a 2-year variance for multi-source leachates that are underground injected. This much time is needed for TSDFs to install the necessary treatment equipment to comply with the BDAT standards.

GCA currently disposes of 1.5 to 1.8 million gallons per year of mixed multi-source leachate and surface runoff from operating areas of the Campbell Bayou landfill cells. This wastewater constitutes over 10 percent of the leachate reported in Table III.B.2.(b). of the proposed rule. The fact that the Campbell Bayou facility alone constitutes 10 percent of the reported annual volume of multi-source leachate injected indicates that EPA's reported figures are too low.

GCA has tested several of the treatment technologies that EPA has indicated are usable for multi-source leachate wastewater treatment, and is in the process of selecting and designing a process. However, it will be impossible to design, procure, and install the treatment equipment by May 1990. We believe the full 2-year variance period may be required to install, test, and bring up the new treatment system, and during that time the Campbell Bayou leachate may have to be injected.

Docket Number: LD12-00159

Commenter: Waste Management, Inc. and Chem Waste Management Inc.

Comment:

EPA has proposed to grant two-year national capacity variances for multi-source leachate wastewater being underground injected (_see id_ at 48,488) and for surface-disposed multi-sour leachate nonwastewaters in the form of non-atomizable sludges anc solids (_id_. at 48,485). WMI supports EPA's determination that these variances are necessary to ensure that the hazardous waste management industry can maintain operations while sufficient treatment capacity is developed to manage leachate in compliance with the final rule.

Docket Number: LD12-00261

Commenter: Disposal Systems, Inc.

Comment:

The GNI Group, Inc. supports the Agency's recommendation of a two (2) year national variance for select underground injected wastes, especially D002, D003, D007 and multi-source leachate. These wastes exist in substantial quantities and generators have no available alternative means of disposal.

13.5 Miscellaneous

Summary:

One commenter (Envirosafe (81)) stated that it might be more appropriate to use a cutoff of one percent total solids content in multi-source leachate to differentiate wastewaters from nonwastewaters for purposes of a capacity variance.

Response:

The Agency has provided a regulatory definition of wastewaters and nonwastewaters in the proposal and in the final rule. Wastewaters are those waste streams containing less than one percent total suspended solids (TSS) and less than one percent total organic carbon (TOC). Nonwastewaters contain greater than one percent TSS or greater than one percent TOC.

Commenters:

The following miscellaneous comment is presented:

- Envirosafe Management Services, Inc. (81).

Docket Number: LD12-00081

Commenter: Envirosafe Management Services, Inc.

Comment:

Page 48484, 5.

It might be easier and more appropriate to indicate that multi-source leachate with to solids greater than 1% are exempted until more capacity is available and those with t solids less than 1% are not exempted.

CHAPTER 14

MIXED RCRA/RADIOACTIVE WASTES

EPA received fifteen comments (Texas Utilities Services (TU Services; 123); NELRAD (147); the Natural Resources Defense Council (NRDC; 156); Westinghouse Electric (167); University of California (182); Department of Energy (DOE; 198); Utility Solid Waste Activity Group, Utility Nuclear Waste and Transportation Program, Edison Electric Institute, American Public Power Association, and the National Rural Electric Cooperative Association (Electric Utilities; 204); Envirocare of Utah (Envirocare; 208); California Department of Health Services (CDHS; 245); American Council on Education and the National Association of College and University Business Officers (NACUBO; 248); Department of Energy (DOE; 260); Babcock and Wilcox (L01); Arizona Public Service Company (APSC; L04); Chemical Manufacturers Association (CMA; L07); Advanced Nuclear Fuels (ANF; L13)) addressing mixed RCRA/radioactive (mixed radioactive) waste capacity issues, all of which pertained to the proposed national capacity variance. Twelve commenters (NELRAD (147); DOE (198); APSC (L04); CMA (L07); ANF (L13); Babcock and Wilcox (L01); CDHS (245); University of California (182); Westinghouse Electric (167); TU Services (123); NACUBO (248); and the Electric Utilities (204)) indicated their support for EPA's proposed two-year variance, with several adding that two years is unlikely to be sufficient time to develop treatment and disposal capacity for mixed radioactive wastes. One commenter (NRDC (156)) disagreed with EPA's proposed national capacity variance for mixed radioactive wastes, arguing that the variance was unnecessarily broad. Three commenters (Envirocare (208); DOE (260); and CMA (L07)) requested clarification of what wastes were covered by the capacity variance. Commenters can be divided into three major categories:

- Support Variance;
- Oppose Variance; and
- Clarify Variance.

14.1 Support Variance

Summary:

Twelve commenters: NELRAD (147: pp. 1-3); Department of Energy (DOE; 198: p. 15); Arizona Public Service Company (APSC; L04: pp. 1-2); Chemical Manufacturers Association (CMA; L07: pp. 43-44); Advanced Nuclear Fuels (ANF; L13: pp. 1-2); Babcock and Wilcox (L01: p. 1); California Department of Health Services (CDHS; 245: pp. 1-3); University of California (182: p. 2); Westinghouse Electric (167: pp. 1-5); Texas Utilities Services (TU Services; 123: pp. 2-3); American Council on Education and the National Association of College and University Business Officers (NACUBO; 248: p. 3); and Utility Solid Waste Activity Group, Utility Nuclear Waste and Transportation Program, Edison Electric Institute, American Public Power Association, and the National Rural Electric Cooperative Association (Electric Utilities; 204: pp. 20-37), supported EPA's proposed national capacity variance for mixed radioactive wastes. Many of these commenters also indicated that although the two-year capacity variance is necessary, the two-year time period is unlikely to be enough time to develop treatment and disposal capacity for mixed radioactive wastes.

Response:

EPA accepts comments supporting the proposed national capacity variance as confirmation of the lack of alternative treatment capacity for mixed radioactive wastes. EPA has the authority (RCRA §3004(h)(2)) to grant a national capacity variance for a maximum period of two years from the statutory effective date when there is insufficient alternative treatment, recovery, or disposal capacity. The Agency may also consider granting up to a one-year extension (renewable only once) of a prohibition effective date on a case-by-case basis, as outlined in 40 CFR 268.5.

Comments:

The comments supporting the proposed national capacity variance are presented in the following order:

- Texas Utilities Services (TU Services; 123: pp. 2-3);

- NELRAD (147: pp. 1-3);
- Westinghouse Electric (167: pp. 1-5);
- University of California (182: p. 2);
- Department of Energy (DOE; 198: p. 15);
- Utility Solid Waste Activity Group, Utility Nuclear Waste and Transportation Program, Edison Electric Institute, American Public Power Association, and the National Rural Electric Cooperative Association (Electric Utilities; 204: pp. 20-37)
- California Department of Health Services (CDHS; 245: pp. 1-3);
- American Council on Education and the National Association of College and University Business Officers (NACUBO; 248: p. 3);
- Babcock and Wilcox (L01: p. 1);
- Arizona Public Service Company (APSC; L04: pp. 1-2);
- Chemical Manufacturers Association (CMA; L07: pp. 43-44); and
- Advanced Nuclear Fuels (ANF; L13: pp. 1-2).

1 of 1

Docket Number: LD12-00248

Commenter: National Association of College and University Business
- Offices (NACUBO)

Comment: p. 3

Mixed Hazardous/Radioactive Waste (paragraph III.B.1.c.(5)(q))

The practical implications of the two-year national capacity variance for mixed hazardous/radioactive waste are unclear. While it is certainly necessary to grant the variance as there are currently no disposal facilities capable of handling this waste, the legal alternatives are not explicitly stated. May generators continue to store such waste products until capacity exists, despite time limits established elsewhere for storage? The radioactive components in some of these wastes decay rather rapidly — may generators store them until they are no longer radioactive and then dispose of them as hazardous waste?

ACE and NACUBO are concerned that adequate treatment and disposal capacity will not exist even at the end of the two-year variance period unless EPA and the Department of Energy make a concerted effort to see that the capacity is developed. Many of the generators of mixed waste are hospitals and universities which do not have the political or economic clout necessary to impact the development of treatment/disposal facilities.

1 of T

Docket Number: LD12-00123

Commenter: TU Services

Comment: p. 2-3

Mixed Waste

TU Services believes that EPA should adopt the proposal to grant a two-year national capacity variance under section 3004(h)(2) for mixed hazardous/radioactive wastes. EPA is correct in its determination that inadequate treatment capacity is available for mixed wastes and should view the unavailability of said capacity with respect to the issue of regulatory jurisdiction. Until such time as EPA and the NRC have resolved those issues related to dual jurisdiction of regulatory programs, the Agency should defer the imposition of specific treatment standards for hazardous waste which may directly conflict with the NRC As Low As Reasonably Achievable (ALARA) concept.

Secondly, EPA should grant the proposed variance which would allow the temporary storage of mixed waste until such time as adequate treatment, recovery or disposal capacity becomes available. In a recent report on the management of commercial low-level radioactive waste, the Office of Technology Assessment appears to recognize that storage prohibitions will only encourage illegal storage and dumping and states that Congress should take the initiative to resolve the technical and legal morass created by current dual regulation.

The Texas Utilities Company System is currently constructing a 2350 megawatt nuclear power plant which will generate an estimated 500-600 gallons per year of mixed waste, all of which would have to be stored on-site until sufficient treatment capacity becomes available. Under EPA hazardous waste jurisdiction, we would be required to comply with the full and onerous series of RCRA permitting requirements. Such activity represents a significant economic and administration burden which is certainly unjustified with regard to the annual generation volume.

TU Services supports and endorses the comments being submitted by the Utility Solid Waste Activities Group (USWAG) and the Utility Nuclear Waste and Transportation Program (UWASTE).

1 of 3

Docket Number: LD12-00147

Commenter: - NELRAD

Comment: p. 1-3

Our organization, NELRAD, made up of radioactive materials users from throughout New England, offer the following comments on the Land Disposal Restrictions for Third Scheduled Wastes as they apply to Mixed low-level radioactive waste. [Mixed (Hazardous/Radioactive) Wastes].

Most importantly, the proposed rule allows recognition of problems associated with regulating the management of mixed hazardous/radioactive waste - both operational and administrative. "....the Agency has determined that there is inadequate nationwide capacity available for mixed waste." That single matter of inadequate disposal capacity raises management issues throughout the full management cycle of mixed hazardous/radioactive waste. Radioactive materials licensees who provide products and services that require a commingling of radioactive and hazardous materials, have taken aggressive steps toward minimizing volume, toxicity and radioactivity of waste that contains both radioactive and chemical elements. But some waste is inevitable, resulting in the estimates that mixed waste volumes are 2-30 percent (Proposed Rule, Discussion, Section III, D.) of the total annual low-level radioactive (LLW) volume. (In 1988 1.4 million cubic feet of LLW was shipped for disposal. That total does not include mixed waste, as no disposal capacity was available). And, as the record shows, radioactive materials licensees have managed that remaining waste with a minimum of effect on public health and safety and the environment.

Without Agency approved and licensed disposal capacity, waste management relies heavily on on-site storage, storage for decay of the radioactive properties and storage until licensed disposal capacity is available. Mixed waste storage, as well as mixed waste disposal, is an operational problem, as stated in the proposed rule: "Statutorily and administratively, the management of the radioactive component differs," (from the statutory management of the hazardous waste components), Proposed Rule Discussion, Section III D. Although the RCRA and HSWA management regulations are explicit, application to mixed waste is difficult because those regulations apply only to "hazardous portions of the mixed waste stream", Proposed Rule Discussion, Section III D; and mixed waste, by definition, includes radioactive elements, as well. Radioactive elements are regulated by NRC (Nuclear Regulatory Commission) and the LLW program.

2 of 3

Docket Number: LD12-00147 (continued)

Commenter: NELRAD

Comment: (continued)

With different risk factors, different agency philosophies and different management safeguards for each component of the single waste form, licensees are in a quandry over preferred and proper management options, e.g. the testing procedures described in Proposed Rule Part 268, Subpart A, 268.7 (b) (2), do not conform to the ALARA principle in the LLW program rule 10CFR20.1 (c)...."in addition to complying with the requirements set forth in this part, make every reasonable effort to maintain radiation exposures, and releases of radioactive materials....as low as is reasonably achievable."

The Proposed Rule offers some relief from the problems of the "dual regulatory framework for mixed waste", Proposed Rule Discussion Section III, D, insofar as "two-year national capacity variance under section 3004 (h) (2) for mixed hazardous/radioactive waste", Proposed Rule Summary, Section E. The operational effects of that variance will be some modification of restrictions on on-site waste storage; however that relief alone does not resolve the issue of mixed waste management and disposal.

The two-year variance must couple with aggressive effort to clarify management expectations and disposal facility licensing procedures. The two-year variance without resolution of the regulatory differences and redundancies of two agencies with different management philosophies, simply prolongs the quandry of acceptable management of wastes that come from products and services that benefit public health and safety in a variety of ways. The result is that during that time extension waste will continue to accumulate. The two-year extension of time must be used to reach regulatory definition and clarification.

The December, 1989 "Partnerships Under Pressure" report by the Congressional Office of Technology Assistance asserts the need for resolution of the mixed waste issue: "It is imperative that mixed waste regulations that are currently unattainable be addressed immediately so that waste generators are left with an option for managing their mixed LLW." The report offers the following alternatives for regulatory assignment:

A. Give Sole Regulatory Jurisdiction to One Agency
B. Maintain Current Dual Regulatory Jurisdiction
C. Give One Agency the Regulatory Lead with Concurrence Required by the Other Agency
D. Establish an Active Interagency Task Force with Congressional Oversight

NELRAD urges that the Proposed Rule, which allows a "two-year capacity variance" be allowed for mixed waste management and that that two-year period of time be used to develop definitive, workable regulatory responsibility that provides standards and guidelines for the safe management of mixed waste - the result of a variety of products and services that use both certain chemicals and radioactive materials.

3 of 3

Docket Number: LD12-00147 (continued)

Commenter: - NELRAD

Comment: (continued)

NELRAD has offered comment in the past that urges regulatory clarification and favors single agency responsibility toward that end. Our members are prepared to provide information and assistance if required. Please call if we may be helpful, 617-350-9023

Docket Number: LD12-00167

Commenter: - Westinghouse Electric Corporation

Comment: p. 1-5

TWO YEAR NATIONAL CAPACITY VARIANCE - (54 FR 48492)

Westinghouse strongly supports EPA's proposal for a two year national capacity variance for the scheduled radioactive, hazardous (mixed) wastes. However, two years will likely not be sufficient for adequate treatment technologies and/or facilities to be developed, permitted and constructed. Sufficient capacity must be available for all newly generated mixed waste as well as the existing inventories. It is recommended that the EPA include additional alternatives to provide for the additional time that will be required. One such alternative is to expand the circumstances for allowable storage to include wastes which must be stored until appropriate facilities become permitted. This is discussed further under the "Storage Prohibition" section of these comments.

Mixed Spent Solvents, Dioxins, and California List Wastes

The proposed national capacity variance for the first, second and third third mixed wastes does not include listed, mixed spent solvents, dioxins, and California list wastes. However, EPA considers that the treatment standards previously established for these wastes apply to mixed wastes, despite the fact that they are demonstrably different from those examined in establishing the standards and even though there is insufficient capacity for their treatment. This has created a dilemma whereby inventories of mixed waste in these categories have been unavoidably in storage for periods greater that allowable. This situation will get worse until the necessary treatment facilities become permitted.

In the July 3, 1986 notice to the states, EPA published in the Federal Register its intent to consider the hazardous components of mixed wastes to be regulated under the RCRA. This was almost three months after the public comment period had ended for the proposed LDRs for these wastes. Therefore, it is likely that sufficient public comments relative to the hazardous components of mixed wastes were not provided to EPA for consideration in finalizing the LDRs. Had mixed wastes been considered then, it is likely that a national capacity variance would have been proposed for listed, mixed spent solvents, dioxins, and California list wastes.

The proposed regulations state "the agency may also consider petitions for one-year extensions of the effective date." The Hazardous and Solid Waste Amendments (HSWA) provide a maximum of two one-year extensions under 3004(h)(3). However, the time period for certain of these extensions has since past. The effective dates were November 8, 1989, and July 8, 1987, for listed spent solvents and California list wastes (mixed or non-mixed) respectively. Westinghouse strongly encourages the Agency to develop a workable solution to the current regulatory dilemma faced by generators of listed spent solvents, dioxins, and California list wastes that are also mixed wastes. Potential solutions may include:

2-53

Docket Number: LD12-00167 (continued)

Commenter: Westinghouse Electric Corporation

Comment: p. 2-3 (continued)

- Inclusion of a policy statement on mixed waste storage in the preamble to the final rule. Such a policy statement may replace the use of facility-specific compliance schedules to allow continued storage of listed, mixed in spent solvents, dioxins, and California list wastes. In addition the policy should recognize that, particularly for transuranic and high-level mixed wastes, continued safe and protective storage is required until treatment and/or disposal facilities can be completed and permitted.

- Classifying these mixed wastes as "newly identified" hazardous waste. This will provide sufficient time so that resources may be used to conduct thorough assessments of demonstrated and available treatment technologies, evaluate potential environmental and human health impacts, incorporate special handling requirements, approve modifications of current standard analytical methods where necessary, and to construct and permit the necessary treatment and/or disposal facilities.

  Classifying these wastes as "newly identified" is also consistent with the approach proposed by EPA for mineral processing wastes. EPA stated the "wastes are `newly identified´ for the purposes of determining applicability of the land disposal prohibitions. Although technically the wastes are not being identified by a new characteristic, they are

STORAGE PROHIBITION - (54 FR 48496)

Westinghouse supports EPA's position that the intent of RCRA section 3004(j) and 40 CFR 268.50 is to prohibit long-term storage of hazardous wastes that might otherwise circumvent treatment requirements imposed by the LDRs. Also, Westinghouse supports the proposed alternatives to allow continued storage of LDR wastes. However, in addition to the two examples of allowable storage proposed, a third allowable category should be provided to address wastes for which there is a lack of sufficient permitted facilities for proper recovery, treatment, or disposal. There presently are insufficient permitted facilities available to treat mixed waste. Accordingly, it is suggested that the following be added to section III.I (Storage Prohibition) of the proposed LDRs:

> (3) Where waste is stored in tanks or containers because of a lack of available permitted facilities to properly recover, treat, or dispose of the waste.

This fulfills the intent of this provision while allowing for the necessary storage of LDR wastes until appropriate treatment, recovery or disposal facilities become permitted in order to achieve proper disposal. This would also alleviate the presently unworkable storage limitation applicable to mixed spent solvents, dioxins, and California list wastes.

3 of 3

Docket Number: LD12-00167 (continued)

Commenter: – Westinghouse Electric Corporation

Comment: 9.4.5 (continued)

Proposed Treatment Standards For Metal Wastes

EPA should reconsider the establishment of treatment standards below the regulatory levels of characteristic hazardous waste as they are unnecessarily restrictive and are inconsistent with the application of the RCRA characteristic standards. EPA should also reconsider specifying sole treatment technologies without allowing for alternative methodologies. These requirements may be inappropriate for all waste streams and could preclude new and innovative technologies. Two examples include:

- o EPA proposed that elemental mercury contaminated with radioactive materials [D009 and U151 (40 CFR 268.42(a)(7))] be treated by amalgamation with zinc (54 FR 48513). This treatment technology may not be appropriate for all radioactive materials.

RADIOACTIVE LEAD SOLIDS SUBCATEGORY - (54 FR 48439)

Westinghouse strongly supports the establishment of the radioactive lead solids subcategory. However, further clarification of the definition of "radioactive lead solids" is needed. Large pieces of waste equipment containing elemental lead that served a biological and/or instrument shielding purpose have been and will continue to be generated. These pieces of equipment can be highly radioactive, and retrieval of the lead is not always feasible in light of potential worker exposure and sometimes equipment configuration. EPA should clarify that this type of waste is included in the subcategory defined as radioactive lead solids.

In addition, EPA should consider encapsulation standards in the final rule or allow for these standards to be specified on a case-by-case basis, perhaps as part of the permit for the treatment, storage or disposal (TSD) facility. Examples of encapsulation techniques include the application of epoxies or coatings, the intrinsic nature of a waste package, or units that are packaged to exceed the Nuclear Regulatory Commission (NCR) radioactive waste Class C packaging requirements.

1 of 1

Docket Number: LD12-00182

Commenter: University of California

Comment: p. 2

TWO YEAR NATIONAL CAPACITY VARIANCE

The University supports the Agency's proposed national capacity variance through May 8, 1992 for disposal of most of the subject mixed waste that was slated for land ban disposal in May 1990. Until there is viable technology and treatment data available to develop and meet approved treatment standards, the proposed variance offers generators and TSDFs a reasonable national solution.

1 of 16

Docket Number: LD12-00198

Commenter: Department of Energy

Comment: pp 1-15

On November 22, 1989, the Environmental Protection Agency published a proposed rulemaking on Land Disposal Restrictions (LDR) for Third Third Scheduled Wastes in the Federal Register (54 FR 48372-48529). The Department of Energy (DOE) would like to take this opportunity to comment on certain aspects pertaining to this proposed rulemaking. DOE presents a number of comments for consideration, many of which support proposed approaches and requirements. DOE continues to have concern over LDR requirements as they relate to prohibiting the land disposal of radioactive and hazardous "mixed waste". In particular, the proposed requirements may not adequately consider the unique difficulties associated with safe management of both the radioactive and chemical hazards associated with radioactive mixed wastes. In addition, DOE presents a number of comments advocating the use of conventional and specialized (e.g., high level radioactive mixed waste vitrification) stabilization technologies for inorganic and metal-containing radioactive mixed wastes.

2 of 16

Docket Number: LD12-00198 (continued)

Commenter: - Department of Energy

Comment: (continued)

1) Radioactive Mixed Waste (RMW)

Since the mid 1980's, the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) have been involved in informal discussions regarding the applicability of the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations to the large volume of radioactive mixed waste (RMW) generated and managed at DOE facilities across the Nation. Historically, there has been some question regarding the applicability of RCRA to RMW. These questions were resolved on July 3, 1986, when EPA published a notice in the Federal Register (51 FR 24504) which determined that RMW was subject to RCRA and that states were required to petition EPA for authorization to regulate RMW. While this statement was clear, there was still confusion on the definition of what constituted RMW. The notice states that pending an interpretation of the "byproduct material" definition by DOE, RMW would be regulated by EPA on a case-by-case basis. DOE published the "Byproduct Material" final rulemaking in the Federal Register on May 1, 1987 (52 FR 15937), which stated that the hazardous portion of RMW would be regulated under RCRA.

In developing prohibitions on land disposal for hazardous waste under the initial land disposal restriction (LDR) rulemakings, consideration apparently was not given to whether there were technologies or adequate available capacity for RMW. This was a function not only of the uncertainty as to whether RMW was subject to RCRA regulation, but more so due to the lack of data and information on RMW. In recognition of this data gap, DOE has been collecting and providing to the EPA, large amounts of data and information on RMW, including types and volumes generated, physical and chemical characteristics, treatment methodologies, and treatment capacity.

With this new data and information, EPA has taken steps toward establishing restrictions on land disposal and related prohibitions that are specifically applicable to RMW. For the first time, within the Third Third proposed rule, EPA has suggested the establishment of separate treatability groups for RMW for several hazardous waste codes. Treatment standards for RMW must recognize both the hazardous nature of the waste and the radioactive component. The best way to accomplish this is

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

through the establishment of separate treatability groups for RMW.

DOE therefore urges EPA to continue with the approach of establishing separate treatability groups for RMW. Additional comments towards this end are provided below.

2) Establishment of Separate Treatability Groups For RMW

As indicated above, DOE maintains that EPA should establish treatment standards for RMW that adequately consider the radiological as well as the chemical hazard posed by the waste. In many cases, alternate treatment technologies may be appropriate for RMW to protect against the radiological hazard posed by the waste, especially during the treatment process. Again, DOE believes that it is important for EPA to recognize and consider the radiological as well as the chemical hazard posed by the wastes, in establishing treatment standards that are fully protective of human health and the environment.

For the most part, data and information on RMW were not available to the EPA for determining if treatment standards appropriate to non-RMW were equally appropriate to RMW. For example, when treatment standards for solvents were promulgated by EPA, only nonradioactive hazardous waste were used for restriction determinations. DOE believes that a proven technology that would allow for safe and effective treatment of both the radiological and chemical hazards associated with the waste should be considered in the establishment of treatment standards. Indeed, some DOE facilities are faced with the currently unsolved dilemma that no appropriate treatment capability or capacity exists for the majority of solvent, dioxin, and California List RMW (as well as for RMW in the First, Second, and Third Thirds), and therefore, are forced to store such wastes in apparent conflict with the land disposal restrictions storage prohibition.

EPA must also recognize that additional effort needs to be undertaken to determine appropriate treatment standards for RMW subject to the land disposal restrictions for the First Third, Second Third and Third Third wastes. DOE maintains that treatment standards and technologies promulgated and proposed for non-mixed (hazardous) waste may not be appropriate for most mixed wastes (RMW), and indeed, may be unsafe. DOE suggests that EPA consider establishing separate and appropriate standards for RMW, via the establishment of separate treatability groups. DOE will support EPA in the development of appropriate waste treatability groups, and corresponding treatment standards and technologies for RMW. DOE has already provided considerable information and data on RMW for EPA's consideration in the development of restrictions specific to such wastes, and will provide more based on EPA's needs and the availability of such information and data.

4 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

Characteristic RMW represents a large category of waste within the DOE complex. The technologies available for the treatment of wastes that are both radiologically and chemically hazardous are generally limited. In DOE's experience, the radiological properties of the waste may also greatly complicate the ability to treat the chemical hazard associated with the waste. The establishment of separate treatability groups for characteristic RMW becomes even more appropriate considering the diverse nature of characteristic wastes. DOE recommends that, as with listed waste, the EPA become very familiar with the types and quantities of these wastes and that an understanding of the complexities of treating such multi-hazard waste be obtained prior to the promulgation of treatment standards. As indicated above, DOE will support the EPA in this undertaking.

In summary, DOE suggests that EPA consider development of treatability groups for RMW separate from that of nonradioactive hazardous wastes. For example, for cadmium and chromium wastes, two more groups or subcategories should be established for RMW. The Agency has indicated the validity of this approach by proposing separate treatment standards for the radioactive lead solids subcategory, and two radioactive mercury waste subcategories. Although these wastes are in the metals category, the rationale for separation of nonradioactive hazardous and radioactive subcategories appears valid for a number of RMW waste groups. In this manner, treatment standards will be truly reflective of both the radiological and the physical or chemical hazard posed by the waste.

SPECIFIC COMMENTS ON PROPOSED RULE

1) 54 FR 48418/48428, Creation of Separate Treatability Groups for Characteristic RMW.

As stated in the preamble, RCRA applies to radioactive mixed waste, independent of the classification of the radioactive component as low level, high level, or transuranic, but only to the hazardous portions of the mixed waste stream.

As indicated under the General Comments, characteristic RMW represents a large category of waste within the DOE complex. The technologies that are available for the treatment of wastes that are both radiologically and chemically hazardous are generally limited. In DOE's experience, the radiological properties of the waste may also greatly complicate the ability to treat the chemical hazard associated with the waste. DOE recommends that, prior to the promulgation of any treatment standards for characteristic RMW, the EPA become more knowledgeable of the types and quantities of these wastes and that an understanding of the complexities of treating such multi-hazard waste be obtained. DOE will support the EPA in this undertaking.

5 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

In addition, DOE suggests that EPA consider development of treatability groups for characteristic RMW separate from that of nonradioactive charcteristic wastes. For example, for the four ignitable treatability groups (subcategories), four more groups or subcategories should be established for mixed wastes. The Agency has indicated the validity of this approach by proposing separate treatment standards for a radioactive lead solids subcategory, and two radioactive mercury waste subcategories. Although these wastes are in the metals category, the rationale appears valid for other characteristic RMW and additional metal waste categories also. In this manner treatment standards will remain clearly separate for radioactive and nonradioactive hazardous wastes.

2) 54 FR 48420, Proposed Treatment Standards for Ignitable Characteristic Wastes.

EPA has divided the D001 Ignitable Characteristic wastes into four subcategories based on the four criteria for identifying a waste as ignitable. These four subcategories and their proposed BDAT treatment standards are: (1) Ignitable Liquids - the proposed treatment standard is incineration; fuel substitution; or recovery as methods of treatment, (2) Ignitable Compressed Gases - where the proposed treatment standard is incineration of vented ignitable gases; or recovery as methods of treatment, (3) Ignitable Reactives - the proposed treatment standard is deactivation as a method of treatment, (4) Oxidizers - with a proposed treatment standard of deactivation as a method of treatment.

DOE supports thermal destruction for the vast majority of ignitable liquid wastes. However, many ignitable wastes are relatively innocuous with respect to biological toxicity (e.g., acetone). This consideration, in conjunction with complications that may occur due to radiological concerns in RMW matrices, make options such as stabilization very feasible and protective of human health and the environment. Stabilization can render ignitable wastes non-liquid as well as non-ignitable, in addition to immobilizing the radioactive components. DOE, therefore, supports the setting of treatment standards based on rendering the waste non-ignitable (flash point greater than 140 degrees F), but not excluding stabilization.

Data has been submitted by DOE to support stabilization as a method of treatment for radioactive zirconium fines under the Ignitable Reactives Subcategory. DOE believes that stabilization is an appropriate deactivation treatment for radioactive zirconium fine wastes, as well as for certain other ignitable and reactive wastes.

6 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

3) 54 FR 48421, Treatment Standards for Radioactive Zirconium Fines (Ignitable Reactives Subcategory).

EPA is proposing a treatment standard of "Deactivation as a Method of Treatment" for wastes in the D001 Ignitable Reactives subcategory. EPA has included radioactive zirconium fines under this subcategory. EPA states that stabilization is not usually considered to be a method of deactivation, and EPA is concerned that this treatment may be a form of impermissible dilution rather than a chemical reaction (i.e., oxidation) that removes the reactivity characteristic. EPA has requested comment on whether stabilization is an appropriate treatment for radioactive zirconium fines.

DOE disagrees that stabilization of radioactive zirconium fines would constitute a form of impermissible dilution. Stabilization is a proven technique for the safe management of radioactive zirconium fines at DOE facilities. On December 22, 1989, DOE resubmitted a report to EPA, with additional supplemental information relative to the report, that supports this position. EPA's concern that the stabilization treatment method may be impermissible dilution possibly arises in part due to language used in the zirconium fines report. In determining an appropriate treatment for this type of waste, DOE needed to consider both the pyrophoric characteristics of the fines and that the treatment method immobilize the radioactive components, and be adaptable to remote handling techniques due to the radiation hazard. In the proposed treatment process, the radioactive zirconium fines are physically separated and immobilized in a cement monolith out of contact with air (i.e., the solidification medium separates and coats the fines), allowing natural oxidation to occur. The treatment method thereby stabilizes the pyrophoric characteristic of the zirconium fines, and the cement provides fixation of the radioactive components and shielding from the radioactivity.

Furthermore, EPA's suggested deactivation technologies such as open detonation and controlled deactivation with water are not applicable for an RMW such as the zirconium fines. The radioactivity will probably not be removed or deactivated with these technologies. On page 54 FR 48422, EPA states that ignitability reflects the presence of volatile organic compounds (VOC) which should be destroyed because they are ozone precursors which are a threat to human health and the environment. Metal fines are not VOC. Metal fines are stabilized to safely remove the ignitable reactive hazard, not to intentionally dilute the waste.

In addition to supporting stabilization as a treatment standard, DOE suggests placing this waste in a radioactive zirconium fines subcategory. There is justification for this because EPA has determined that within the Ignitable Reactive Subcategory there appears to be a further variety of different waste groups, each

7 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

with a certain degree of uniqueness with respect to hazard and handling requirements. DOE agrees that radioactive zirconium fines are a unique waste and should be placed in a separate subcategory with stabilization, as described in the December 22, 1989, DOE report, as the treatment standard (i.e., specified technology).

4) 54 FR 48421, Oxidizers Subcategory.

The fundamental concern that DOE has with the oxidizers treatability group is that it is very difficult to define what an oxidizer is. Oftentimes, a chemical may contain some percentage of compound that is defined as an oxidizer under the Department of Transportation (40 CFR 173.151). When does it cease to be an oxidizer? Conservatively, a waste could be defined as an oxidizer when in fact no deactivation is necessary because it does not have any potential to release unsafe quantities of heat or volatile organics. EPA should clarify the conditions for which a waste would fall into the oxidizer treatability group in the final rule.

5) 54 FR 48422, Proposed Treatment Standards for Corrosive Characteristic Wastes.

As indicated earlier, DOE generates substantial characteristic wastes, some of which is corrosive wastes that may or may not be radioactive. Proposed treatment standards for nonradioactive corrosive wastes may not be appropriate for radioactive corrosive wastes. DOE supports the inclusion of stabilization by solidification as an acceptable method of treatment for radioactive corrosive waste. Stabilization solidifies the waste, thus rendering it non-corrosive, physically entraps and chemically stabilizes the EP toxic metals that may be present, and immobilizes the radioactive components.

DOE disagrees with the proposed treatment standard for acids and alkalines, "Neutralization to pH 6 - 9 and Insoluble Salts." The formation of insoluble salts is certainly desirable, however, it is not always practical or even possible to form insoluble salts during neutralization of some corrosives like nitric acid, or sodium or potassium hydroxide. In a review of over 50 fifty inorganic nitrate compounds, it was found that there is only one insoluble nitrate salt that can form, bismuth subnitrate, and this compound can probably only be formed in the laboratory. Likewise, there are no common insoluble sodium or potassium salts for neutralizing the common sodium or potassium hydroxide bases. Some insoluble salts are toxic (chromates) or are exotic, as previously described (bismuthates, tungstates). Also, the lack of a definition for insoluble (e.g., grams per liter) adds to the difficulty of compliance with this proposal.

3 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

Since insoluble salts cannot be formed in many cases, the treatment standard cannot be applied. This infers that substitute raw chemicals must be found within industry. When you review the abundance of nitric acid and sodium and potassium hydroxide that is used in industry, it can be concluded that this is not a viable option. As an alternative, EPA might consider requiring the formation of an insoluble salt only for cations (e.g., Ba, Ca) or anions (e.g., SO4, PO4) that are conducive to forming an insoluble salt.

As discussed in another comment further on, radioactive and radioactive mixed waste managed in tanks that are destined for cementitious stabilization (grout) or vitrification, are adjusted to in excess of pH 12.5 to prevent corrosion of the tanks. Neutralization of these wastes to pH 6 - 9 would be an unnecessary requirement for wastes that will be stabilized in a cementitious medium or that will be made into a glass matrix. It would also most definitely interfere in the chemical fixation of the radiological and the heavy metal constituents in the case of cementitious stabilization (i.e., it would result in an inferior stabilized product). It would also significantly delay setting times and would result in a significant exothermic reaction.

Such heat generated would literally require construction of facilities, not otherwise required, to dissipate the heat and contain and control radioactive gaseous emissions. The addition of a neutralizing agent would also significantly increase waste disposal volumes without certainty that safe disposal would be enhanced, if not diminished.

Additionally, DOE considers the proposal to require the treatment of a corrosive waste to a pH of 6 - 9 to be unnecessarily restrictive. As discussed in greater detail in a comment below, DOE supports treatment standards set at the characteristic levels. Under the proposed approach, a waste stream with a pH of 2.1 would require no treatment but a waste stream with a pH of 1.9 would require treatment to obtain a pH of between 6 and 9. However, both the treated and untreated waste streams would be considered to present an acceptable level of risk to the public. The argument made by the EPA is that the cost associated with raising the pH of the solution is not significant; the EPA uses an example that only 12 pounds of sodium hydroxide would be required to neutralize a gallon of concentrated sulfuric acid to a pH of 7. However, this example fails to recognize that the neutralization endpoint can be exceeded by as little as 1 pound of sodium hydroxide, causing the pH to exceed the upper limit proposed and potentially requiring additional neutralization with an acid. Based on the above considerations, the Department believes that the option of setting treatment standards for corrosive characteristic wastes at the characteristic levels should be adopted.

9 -16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

If the existing characteristic range for corrosivity is not implemented, DOE asserts that a pH range of 5 - 10 could more easily be achieved. This range is more readily attainable as can be shown on a standard pH titration chart. In a naturally occurring environment, soils can be found in pH ranges of 9 - 11, for example, the pH of soil in southeast Washington state fall within this range. Also, many soils in other areas of the country have pH's in the range of 5 - 10.

6) 54 FR 48424, Proposed Treatment Standards for Reactive Characteristic Wastes.

DOE supports the allowance of any treatment technology that renders reactive wastes non-reactive, including stabilization as an acceptable method of treatment for certain wastes within this category. This is especially pertinent to RMW as demonstrated by information submitted on the treatment of ignitable reactive zirconium fines (see specific comment number 3).

7) 54 FR 48428, Proposed Treatment Standards for Metal Wastes.

As stated in the preamble to the proposed rule, EPA is proposing treatment standards for characteristic EP toxic metal wastes expressed as concentration-based standards or as required methods of treatment. For many of the D,F,K,U, and P wastes, EPA is proposing treatment standards expressed as concentrations of specific metals. Performance data are available from treatment of various F and K wastes which contain these metals. Characterization data on many of these metal wastes are limited, and therefore, EPA is proposing treatment standards for many metal-bearing wastes based on a transfer of performance data from other wastes containing these metals having similar waste characteristics.

For most metal-containing wastes, EPA is considering establishing treatment standards based on a number of technologies, including recycling/recovery (thermal recovery), chemical precipitation, alkaline chlorination, roasting or retorting, incineration, and conventional and specialized stabilization technologies. Conventional stabilization technologies include cementitious processes, whereas specialized technologies include the addition of binders and use of molten glass (vitrification). DOE feels that many of these technologies will be applicable to most metal-containing wastes, including characteristic wastes. Because DOE relies to a significant extent on mobility reducing technologies for RMW, establishment of treatment standards based on other technologies could be severely prohibitive. Mobility reducing technologies are within the HSWA mandate, and are protective of human health and the environment. The use of these technologies should not be prohibited over other technologies when more than one technology can be shown to meet the definition of Best Demonstrated Available Technology (BDAT). For this reason, DOE

10 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

recommends that treatment standards established for metal-containing wastes allow the use of all applicable technologies that can achieve the characteristic levels.

In addition, because DOE has been applying stabilization and related technologies to it's wastes for some time, a considerable amount of information is available that can be used to aid in establishing treatment standards. Successful cementitious and other formulations have ben developed for various RMW. DOE has recently (December 22, 1989) and today resubmitted information on methods of stabilization of metal-containing RMW.

EPA has recognized that RMW present unique problems in treatment and disposal. In the proposed rule a separate Radioactive Lead Solids Subcategory has been established. In addition, two mercury wastes have been placed into a separate radioactive group. Information indicates that the BDAT technologies and standards for the corresponding nonradioactive wastes may not be applicable for the radioactive wastes, since many technologies and standards proposed for the nonradioactive wastes in the metals group are based on a transfer of performance data from other wastes containing these metals. For these reasons, DOE recommends that EPA consider placing all EP toxic metal wastes that exhibit radioactivity into separate radioactive subcategories as they have done for lead and mercury. DOE believes that separate treatability subcategories and alternative treatment standards are appropriate for these RMW.

8) 54 FR 48429, Development of Treatment Standards for EP Toxic Characteristic Metal Wastes.

EPA is proposing treatment standards for the characteristic metals expressed as concentration-based standards or as required methods of treatment. DOE supports the establishment of treatment standards as specified methods of treatment for EP Toxic metal waste subcategories, where such an approach is clearly applicable. However, with respect to concentration-based treatment standards, DOE urges that such treatment standards relative to EP Toxic metal RMW be set at the characteristic level concentrations and that stabilization by solidification be considered an acceptable method of treatment to achieve these levels.

Along with the comments provided herein, DOE is resubmitting a data package to EPA describing a stabilization process to treat certain hazardous and mixed waste streams which contain the metals chromium (D007), lead (D008), cadmium (D006), and silver (D011). This data package, previously submitted on September 26, 1989, describes a solidification method of treatment that results in a stable waste form that will achieve levels below EP Toxic metal concentrations (i.e., performance data indicates that this

11 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

stabilization process brings the RMW below characteristic levels for the EP Toxic metals identified above).

The data package discussed under this comment is separate from, and should not be confused with, the data package on the low-level RMW fraction generated from the pretreatment of high-level RMW streams. In that pretreatment process the low-level RMW fraction is separated from the high-level RMW fraction and then is sent to a grout solidification facility. This grout solidification data package was previously included as part of the December 22, 1989, submission.

With consideration to the stabilization data package being resubmitted with these comments, DOE requests that EPA evaluate the establishment of separate RMW subcategories specific to each metal (i.e. radioactive chromium subcategory), and establish the hazardous characteristic level as the concentration-based treatment standard, or specified methods of treatment (where applicable), for RMW.

9) 54 FR 48432, Use of EP Instead of TCLP under Certain Circumstances.

In some cases the EPA is proposing to allow the EP to be used instead of the TCLP for determining compliance with the treatment standards, such as in the vitrification of arsenic-containing nonwastewaters. EPA has proposed that the EP be used considering that the data available is EP and not TCLP.

Many wastes are combined prior to treatment. Testing to determine compliance with the treatment standards could require application of both tests, which is unnecessarily redundant and a waste of resources. Except for arsenic and selenium nonwastewaters, generators would be required to first test their wastes through the EP test to determine if their waste is hazardous and then through the TCLP to determine whether the waste meets the treatment standard. However, EPA is proposing that wastes containing arsenic and selenium be tested by the EP to determine if a treatment standard has been reached. If wastes contain additional EP Toxic metals, both tests would need to be applied. Such dual testing requirements are of significant cost and confusion, particularly when wastes contain arsenic or selenium as well as other EP metals.

On a broader scale, DOE is concerned about EPA plans to finalize use of the TCLP for the toxicity characteristic. Most of DOE's data for determining whether wastes exhibit the toxicity characteristic is with EP results. DOE has not yet tested the majority of it's waste streams using the TCLP because DOE is concerned about the changes that will be made in the proposed vs. the final TCLP method and the constituents and analytes that will be included in the expanded toxicity characteristic. For this

12 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

reason, DOE does not plan to conduct TCLP testing on a broad scale until the TCLP is finalized. Numerous waste streams at many facilities will need to be tested, which will require considerable time to complete.

DOE is concerned regarding the period of time that facilities will be allowed to rely on EP results after the TCLP rule is finalized. DOE recommends that EPA establish an effective date for the TCLP rule that provides sufficient time following promulgation, to allow testing to be accomplished.

10) 54 FR 48439, Radioactive Lead Solids Subcategory

The EPA has proposed BDAT treatment standards for D008 radioactive lead solids of "Surface Deactivation or Removal of Radioactive Lead Portions followed by Encapsulation; or Direct Encapsulation of Radioactive Lead Solids as Methods of Treatment". The DOE supports the establishment of the radioactive lead solids subcategory in the proposed rule. It is felt, however, that there is need for further clarification on two points: 1) definition of "radioactive lead solids" - the DOE manages the disposal of large pieces of waste equipment containing elemental lead that served a biological or instrument shielding purpose. These pieces of equipment can be highly radioactive and retrieval of the lead is not considered feasible in light of worker exposure and sometimes equipment configuration. DOE requests that EPA clarify that these forms of waste are contained in the radioactive lead solids subcategory; 2) definition of "encapsulation" - no standards or criteria are presented that identify viable "encapsulation" techniques. It may be appropriate for EPA to detail in the final rule that "encapsulation" standards for a particular waste will be developed on a case-by-case basis, perhaps as specified in the permit or waste analysis plan for the TSD facility. Examples of encapsulation used at DOE facilities include the intrinsic nature of the waste equipment, applied epoxies or coatings, packages that exceed radioactive waste Class C packaging requirements, and encapsulation in stainless steel. Further clarification is requested on the definition of encapsulation and whether encapsulation of radioactive lead solids, by the means listed above, would meet the proposed standard. Clarification on encapsulation of lead could be provided by defining specific criteria for encapsulation (such as encapsulation time and/or media). For example, a minimum containment time might be identified for the hazardous constituents (e.g., 30 years, as specified in RCRA post-closure period requirements).

An associated issue under this comment that DOE would like EPA to consider is the applicability of the land disposal restrictions to "lead shielding of radioactive waste packages" that are intended for disposal. The primary example of such a material is the reactor compartments from deactivated nuclear submarines.

Docket Number: - LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

The lead is completely encapsulated behind or within the metal of the submarine hull and structure. Upon burial the lead is expected to remain encapsulated for several hundred years.

The applicability of the proposed lead treatment standards to lead shielding of radioactive waste packages is unclear, and may conflict with previous EPA policy. In a letter dated June 26, 1987 to the Rocky Mountain Compact region, the position stated by the Office of Solid Waste is that "...lead whose primary use is shielding in low-level waste disposal operations is not subject to Federal hazardous waste regulations when placed on the land as part of its normal commercial use...". This policy is protective of human health and the environment because to remove the lead is likely to cause radiation exposure. DOE believes, as stated in the EPA letter, that the lead shielding of radioactive waste packages as described in this comment in not a waste and requests that EPA clarify this. If EPA asserts that lead shielding of radioactive waste packages is hazardous waste, then DOE requests that these shielding materials be included in the radioactive lead solids subcategory with encapsulation as the method of treatment.

11) 54 FR 48442, Standards for Radioactive Wastes Containing Mercury.

EPA has proposed a treatment standard for elemental mercury wastes contaminated with radioactive materials of "Amalgamation with Zinc as a Method of Treatment." DOE requests that amalgamation with gold be included as a method of treatment. This alternate method is necessary due to process requirements for tritium production. The amalgamation with gold provides a similar decrease in air emissions, decrease in mobility and potential reduction in leachability of the liquid mercury to zinc amalgamation.

12) 54 FR 48445, BDAT for Silver Nonwastewaters.

In the second column of page 48445, EPA states that it is proposing the same concentration based standards for D011 nonwastewaters as for P099 and P104 wastes, however it goes on to state that it is proposing "Recovery or Stabilization as Methods of Treatment." DOE requests correction or clarification on this apparent inconsistency.

13) 54 FR 48461, Multisource Leachate Treatment Standards.

The EPA is proposing two options for the development of treatment standards for multisource leachate. The first option would continue the application of the carry-through principle under which multisource leachate must meet the standards established for all waste codes from which it was derived. The second option

14 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

nonwastewater multisource leachate. First, DOE recommends that both options be available to generators. The options appear to be appropriate for two circumstances. Option 1 is most appropriate for leachate that has only a small number of waste codes associated with it. Option 2 is most appropriate for leachate with a large number of waste codes. Having both options available to generators would lead to lower testing costs, as it would alleviate unnecessary testing for leachate that has only a limited number of waste codes associated with it.

DOE further recommends that EPA expand Option 2 by establishing treatment standards based on selection of specified technologies over numerical standards, as DOE remains greatly concerned over the analytical burden this option as proposed would place on generators. DOE recommends an approach similar to that being proposed for lab packs. Based on the organic or inorganic nature of the leachate, treatment standards could be based on either incineration or stabilization technologies. However, DOE would further recommend that the technologies to be applied be based on the specific characteristics of the leachate. DOE recommends that EPA establish a matrix of technologies to be applied versus the chemical/physical nature of the leachate. In this manner, technologies would be applied based on the presence or absence of certain types of constituents in the leachate. Variances from the treatment standard could be applied for in those cases where the leachate cannot be treated by the specified technology.

EPA has stated that the monitoring frequency for multisource leachate would be set in individual facility's waste analysis plans, and would be left to the judgement of the permit writer. DOE also agrees with this approach, but would like to see it expanded. Specifically, in the event that EPA determines that establishment of numerical standards is more appropriate for multi-source leachate, DOE recommends that the constituents to be analyzed be also based on the individual characteristics of the leachate and the facility, and be set by the permit writer. In this manner, the analytical burden that most facilities would face, could be reduced to a subset of constituents that could be used as indicators of the success of the treatment process.

As a related matter, DOE questions whether LDR treatment standards for multi-source leachate should be applied to soil and groundwater contaminated by leachate, as is proposed by EPA. This interpretation of the applicability of the LDR to contaminated soil differs from that contained in a recent EPA supplemental notice (54 FR 41566, 10/10/89) addressing the issue of the applicability of the LDR to CERCLA response actions. EPA proposed in this notice, an interpretation that would allow the temporary evacuation, treatment, and redeposition of contaminated soils without the action being considered land disposal. EPA also suggested that this interpretation be expanded to RCRA

15 of 16

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

corrective actions as well as closures. DOE requests clarification on the two conflicting (proposed) rulemakings.

Additionally, the above indicated FR notice (54 FR 41566, 10/10/89) recognized the need for distinct treatability groups for contaminated soils and debris. In establishing multi-source leachate treatment standards, EPA should address the applicability of these standards to leachate-contaminated soils and groundwater. DOE believes that in many cases, contaminated soil and groundwater should be placed in separate treatability groups, because application of LDR treatment standards to cleanups or closures should provide flexibility in selection of remediation techniques due to the variability of the contaminated media.

14) 54 FR 48470, Treatment Standards For Lab Packs.

The approach proposed by EPA establishes incineration as the treatment standard for lab packs containing certain characteristic waste and listed organic hazardous waste codes only, and stabilization for lab packs containing certain EP toxic metals listed in Appendix V to part 268: barium, cadmium, lead, silver, and trivalent chromium. Lab packs are separated into "organic lab packs", and "inorganic lab packs". Appendices IV and V to part 268 list waste codes that may be included in "organic" and "inorganic lab packs", respectively. Where lab packs contain organic or inorganic waste other than those specified in Appendix IV or V (including non-hazardous waste), or where organic and inorganic wastes are commingled in a lab pack, the individual treatment standards and other restrictions for each waste code in the lab pack must be achieved. Generators will not be required to analyze the treatment residue for compliance with individual treatment standards. However, generators must continue to list each waste code contained in the lab pack on the notification form.

Storage of the lab packed waste in the various categories may need to occur over very long periods of time, perhaps in violation of the storage prohibitions, in order to accumulate sufficient amounts for treatment. Also, many of the lab packs contain multiple components (e.g., metals and organics, and listed wastes, primarily U and P not identified by EPA as belonging to either the "organics" and "inorganics" categories) subject to different treatment standards that require a number of different technologies that may conflict with one another.

Additionally, waste types such as empty bottles and equipment used to sample and contain unused chemical products are managed in lab packs, in most instances. For many of these waste types, it is infeasible to triple rinse the containers (e.g., spray bottles) as required for P wastes in order to obtain unregulated

Docket Number: LD12-00198 (continued)

Commenter: Department of Energy

Comment: (continued)

fall into the "organics" and "inorganics" categories) to determine whether they meet a treatment standard. Triple rinses that do not result in a product that can be reused in the process become a restricted waste in greater volume than the original residue. Further, EPA does not address the disposition of non-triple rinsed containers for the "inorganics" category, where stabilization has been proposed as the treatment technology. It is not clear whether EPA intends that such containers be stabilized along with the waste from these containers. DOE requests clarification on the above issues. 2

15) 54 FR 48485, Two Year National Capacity Variance for RMW

As stated in the preamble to the proposed rule, RMW is subject to RCRA hazardous waste regulations, including the land disposal restrictions, regardless of the type of radioactive constituents that these wastes contain (e.g., high-level, low-level, or transuranic). EPA asserts that radioactive wastes that are mixed with spent solvents, dioxins, or California list wastes are subject to the land disposal restrictions already promulgated for those hazardous wastes.

The Third Third proposed rulemaking addresses radioactive wastes that contain First Third, Second Third, and Third Third wastes. As indicated in the preamble discussion of the proposed rule, DOE has provided EPA with data on RMW inventories, generation rates, and existing and planned treatment capacity at DOE's major operating facilities. Based on this and other data and information, EPA has determined that alternative treatment capacity is not available for RMW. Although DOE has plans to develop capacity to treat these wastes, DOE currently lacks sufficient capacity to adequately treat its RMW. First, while the capacity may exist at one facility, it may not exist at another. Use of available treatment capacity at other facilities would be in most cases restricted because of the inherent difficulties involved in moving RMW. For most facilities, treatment capacity for RMW will need to be present on-site. For these reasons, DOE supports the two-year national capacity variance for RMW. 3e

Even with the two year national capacity variance for RMW, it is likely that many DOE facilities will need to apply for additional case-by-case extensions to the effective date. DOE is committed to fulfilling it's environmental responsibilities under RCRA. However, like other Federal Agencies, including EPA, funding for various programs is set by Congress through a rather laborious budgetary process. Major projects, such as building treatment capacity where none exists, constitutes a major activity, with considerable cost. Planning for such activities often occurs years before actual construction even commences. Furthermore, the development of additional treatment units is an activity that will require a RCRA permit, a process which can take several

Docket Number: LD12-00204

Commenter: Electric Utilities

Comment:

VI. THE TWO-YEAR NATIONAL CAPACITY VARIANCE FOR MIXED WASTE IS ESSENTIAL

EPA is proposing to grant a two year national capacity variance from the land ban program for mixed wastes subject to

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

the proposed rule (i.e., first, second and third-third wastes). 54 Fed. Reg. at 48485. The basis for the proposed variance is the absence of "sufficient alternative treatment capacity" for mixed wastes. Id. The Electric Utilities agree that the proposed national capacity variance is essential and should be preserved in the final rule.

As EPA is aware, at the present time there is little or no licensed and permitted commercial treatment capacity available for mixed wastes generated by NRC licensees. While such wastes are produced by thousands of commercial generators (nuclear utilities, hospitals, research facilities, etc.), very few mixed waste treatment facilities exist.[2] Those facilities which are available are capable of handling only a very small portion of the mixed waste produced by commercial generators. Recently, Congress' Office of Technology Assessment ("OTA") completed a study which found, among other things, that

> [m]any of the hazardous constituents in mixed LLW are banned from land disposal until they meet specific treatment standards. However, no offsite treatment facilities have been developed, aside from an energy recovery facility burning BRC [below regulatory concern] scintillation

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[2] The Quadrex facility in Florida processes and treats certain scintillation liquids pursuant to a specific NRC regulation authorizing treatment of two very specific waste streams "without regard to . . . radioactivity." 10 C.F.R. § 20.306.

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

> fluids in Florida. [Footnote omitted].[3]

Not only is there extremely limited treatment capacity for mixed waste at the present time, there is *no* facility authorized to accept mixed waste for disposal and none will be available for a number of years. Accordingly, EPA has properly determined that a two-year national capacity variance from the land ban program for mixed wastes subject to the proposed rule is appropriate and necessary.

While we strongly endorse the proposed variance, it is important to recognize that a two-year variance will provide only temporary relief from a problem that is likely to persist well beyond the variance's expiration on May 8, 1992. In particular, the proposed variance does not sufficiently account for the length of time it will take to develop adequate mixed waste treatment and disposal capacity.

Pursuant to the Low-Level Radioactive Waste Policy Amendments Act of 1985 ("Amendments Act"), various states and regions are presently in the process of developing new low-level radioactive waste disposal facilities. In addition, efforts are underway to establish additional mixed waste treatment capacity. There are several reasons why these efforts will not produce sufficient disposal or treatment

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[3] *Partnerships Under Pressure, Managing Commercial Low-Level Radioactive Waste*, Summary at 15-16 (OTA Report) (pertinent provisions attached hereto).

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

capacity for a number of years beyond the expiration of the proposed two year variance.

First, the regional low-level radioactive waste disposal compacts established in accordance with the Amendments Act restrict access to the regional disposal facilities to members of the compact region.[4] Thus, any mixed waste facility that is developed will likely service only generators within that specific compact. Similarly, individual state facilities are being developed to handle only wastes from generators within those states. As a result, the future development of one or two new disposal facilities will only provide disposal capacity to a limited number of generators. Similar restrictions may be imposed on the use of treatment facilities by non-regional or out-of-state generators, depending upon the provisions of the specific compact or state legislation.[5]

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[4] For example, Article IX.b of the Midwest Interstate Low-Level Radioactive Waste Compact states that "[u]nless otherwise authorized by the [Compact] Commission . . . it is a violation of this compact . . . [f]or any person to deposit at a regional facility waste not generated within the region . . . ."

[5] For example, Article VII(c) of the Rocky Mountain Low-Level Radioactive Waste Compact states that "it shall be unlawful for any person to manage any low-level waste within the region unless the waste was generated within the region or unless authorized to do so . . . ." Article II(h) defines "management" as "collection, consolidation, storage, treatment, incineration or disposal."

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

the expiration of the two-year variance). Such an extension may be renewed for an additional one year, but in no event can an extension extend beyond two years from a land ban effective date. Id. Moreover, an extension only applies to wastes generated at the specific facility requesting the extension and does not apply to restricted wastes from other facilities. Id. The Electric Utilities are concerned that the case-by-case extension approach will be wholly inadequate to address the continuing lack of mixed waste treatment and disposal capacity after May 8, 1992.

Given the large number of generators who will continue to lack access to mixed waste disposal capacity well into the 1990s, a multitude of case-by-case extension requests can be anticipated. Furthermore, it will be difficult, if not impossible, for generators to satisfy each of the conditions necessary to achieve an extension, such as the requirement to enter into "a binding contractual commitment to construct or otherwise provide alternative treatment, recovery . . . or disposal capacity . . . ." Id. Even if the applicable conditions are satisfied, such extensions cannot be granted beyond May 1994.

Accordingly, it is imperative for EPA to develop a workable variance mechanism for mixed waste that will remain in effect until adequate mixed waste treatment and disposal capacity is available throughout the industry. In order to be

Docket Number: LD12-00204 (continued)

Commenter: - Electric Utilities

Comment: (continued)

effective, such a mechanism must be suitable for implementation on at least a regional, if not a national basis. The Electric Utilities would be pleased to work with EPA in developing an effective and workable variance mechanism.

VII. THE PROPOSED TREATMENT STANDARDS FOR MIXED WASTE FAIL TO CONSIDER THE RADIOACTIVE COMPONENT OF MIXED WASTE

With few exceptions, the treatment standards identified in the proposed rule fail to reflect appropriate consideration of the radioactive component of mixed waste.[6] Under the proposed standards, mixed waste would have to be treated in precisely the same manner as purely hazardous wastes. The Electric Utilities believe, however, that before imposing the land ban treatment standards on mixed wastes, EPA must determine that the technologies that have been utilized to set the treatment standards for the contained RCRA wastes are appropriate for use with radioactive materials. As discussed below, many of the proposed standards are not suited to mixed waste because the technologies relied on in setting BDAT are inappropriate for the radioactive component of the mixture.

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[6] The Electric Utilities have long advocated that subjecting mixed waste to full dual regulation under RCRA and the AEA is unduly burdensome and unnecessary to protect human health and the environment. Consequently, the Electric Utilities are continuing to press for legislation that would give the NRC exclusive authority to regulate the hazardous and radioactive components of mixed waste. Nothing in these comments should be construed as indicating a compromise by the Electric Utilities on this point.

3 of 7

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

Moreover, consideration of the radiological nature of mixed waste is necessary to avoid inconsistencies with Atomic Energy Act ("AEA") regulations which would render the land ban treatment standards null and void. Section 1006(a) of RCRA (42 U.S.C. § 6905(a)) prohibits EPA from imposing RCRA requirements on any activity or substance in a manner inconsistent with the Atomic Energy Act. Where such inconsistencies exist, Atomic Energy Act regulations supersede EPA requirements. The OTA report explicitly recognizes this problem:

> EPA developed its treatment standards based on hazardous waste only, not radioactive waste; therefore, some of the standards are inadequate, inappropriate, or both.
>
> [For example,] in the case of organic chemicals containing high concentrations of carbon-14 and tritium, no standard off-gas systems for incinerators would trap these radionuclides.[7]

Before discussing certain of the technical inconsistencies that result from subjecting mixed wastes to the proposed land ban treatment standards, it should be noted that the study recently completed for the Nuclear Management and Resources Council ("NUMARC") entitled "The Management of Mixed Low-Level Radioactive Waste in the Nuclear Power Industry" (currently being printed for January release) provides perhaps the best data to date on the nature of commercially-generated

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Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

mixed wastes, and discusses some of the problems inherent in various treatment options.

A. Technical and Regulatory Problems From Subjecting Mixed Waste to Land Ban Standards

The NRC regulations establish certain general requirements designed to protect against the hazards from exposure to radioactive materials, including limits on occupational exposures to radiation, (*see e.g.*, 10 C.F.R. § 20.101) and requirements for licensees to maintain radiation exposures "as low as is reasonably achievable" ("ALARA") (10 C.F.R. § 20.1(c)). As a general matter, EPA has not considered these requirements in establishing land ban treatment standards for mixed wastes. Compliance with certain of the proposed treatment standards, therefore, may directly conflict with important NRC requirements.

Perhaps the most obvious example of a treatment technology that may not be appropriate for the radioactive component of mixed waste is incineration. Nonetheless, incineration is one of the most common BDAT standards under the land ban program. For example, "thermal destruction" through incineration, fuel substitution or recovery is the specific treatment standard for D001 mixed wastes containing ignitable liquids, such as certain solvents, paint thinners, contaminated oils and organic hydrocarbons. 54 Fed. Reg. at 48420. Similarly, certain mixed wastes containing listed spent solvents used throughout the nuclear power industry (F001

0 of 17

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

through F005) are presently subject to the land ban program and must be incinerated before land disposal. Furthermore, most of the treatment levels that must be achieved for organic waste are based on incineration, and can only be achieved through incineration.

Under NRC regulations (10 C.F.R. § 20.305 in particular), however, incineration as a treatment or disposal option is severely restricted. Section 20.305 states that

> [n]o licensee shall treat or dispose of licensed material by incineration except for materials listed under § 20.306 [certain liquid scintillation and animal tissue materials] or as specifically approved by the Commission pursuant to §§ 20.106(b) [license amendments for increases in radioactive effluents released to unrestricted areas] and 20.302 [case-by-case approval of specific disposal procedures].

This provision permits NRC licensees to incinerate certain limited types of radioactive waste or to incinerate only after a case-by-case application and formal regulatory determination. Therefore, those land ban treatment standards that call for incineration do not adequately reflect applicable and superseding NRC regulatory provisions and could cause serious regulatory problems for generators of mixed waste.

Specifically, subjecting mixed waste to a land ban treatment standard requiring thermal destruction would create a regulatory Catch-22 for the mixed waste generator. While the waste must be incinerated to be land disposed under RCRA,

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

incineration may not be an available option for the radioactive component of the waste under the AEA. Thus, under RCRA, the waste may not be land disposed, while under the AEA, the only available disposal option for the waste may be land disposal. See, e.g., 10 C.F.R. Part 61. Therefore, a facility managing mixed waste would be (1) barred by EPA from land disposing of the waste unless it was incinerated; (2) barred by NRC from incinerating the waste yet required to land dispose of it nonetheless; and (3) barred by EPA from storing the waste unless the facility was planning to treat or dispose of it in compliance with the RCRA land ban. A more direct inconsistency between two regulatory programs is hard to imagine.

Although this dilemma is most pronounced in the case of incineration, other treatment technologies pose similar problems. As discussed above, NRC regulations require that licensees maintain occupational exposures "as low as is reasonably achievable" ("ALARA"). See 10 C.F.R. § 20.1(c). The concept of ALARA would also limit the availability of treatment options generally required for "pure" hazardous wastes. For example, releases from the BDAT treatment process, contamination of equipment, and the testing which is required during and following the BDAT treatment process, all create a potential for an increased hazard of radiation exposure. Thus, any BDAT process needed to meet an applicable land ban treatment standard has the potential to create the regulatory gridlock described above.

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

Another example of a serious potential problem is the possibility that under the proposed rule spent fuel from nuclear power plants could possibly be determined to be EP toxic and subject to the treatment standards for such characteristic hazardous wastes. While we have no data at the present time to confirm or reject the possibility that spent fuel could be EP toxic, the potential consequences of requiring virtually any treatment of spent fuel are significant. The potential hazards from the highly radioactive nature of this waste would far outweigh the benefits from any treatment of the hazardous waste component of the mixture. Virtually any requirement for hazardous waste treatment would be plainly inconsistent with radiological requirements imposed in accordance with the Atomic Energy Act, and therefore null and void pursuant to RCRA section 1006.

Another area of complication involving the treatment of mixed waste involves the prescribed treatment methods for ignitable characteristic wastes (D001). Specifically, for ignitable liquids, EPA is proposing a required method of treatment involving incineration, fuel substitution or recovery. See 54 Fed. Reg. at 48479. These options, however, are totally inappropriate for ignitable liquids containing radioactive wastes. First, as explained above, there is no commercial facility available to incinerate mixed waste; consequently, the first treatment option is not viable for

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

"ignitable" mixed waste. Fuel substitution is equally unavailable. As a practical matter, the radioactivity in the ignitable waste renders the material unsuitable for fuel recovery. Finally, recovery as a treatment method is also impracticable because, once again, the radioactive nature of the material eliminates any legitimate reuse options.

The common utility practice for managing this type of waste is to render it non-hazardous and then dispose of the waste as low-level radioactive wastes in a qualified NRC facility. EPA's proposed treatment methods, however, would eliminate this effective and efficient treatment option. The problems associated with radioactive ignitable liquids demonstrates once again the inappropriateness of simply transferring the land ban treatment standards for purely hazardous wastes to mixed wastes.

Finally, an additional problem involves the treatment standard for F002 hazardous waste (and, indeed, any listed solvent). Specifically, the Agency has established a treatment standard for F002 based on steam stripping. See 40 C.F.R. § 268.41. This technology is wholly inappropriate for use in the case of radioactive mixed wastes containing F002 wastes because the treatment levels cannot be achieved without seriously compromising the NRC requirement of maintaining ALARA.

The problems discussed above are only examples of the difficulties created by the imposition of treatment standards

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

that do not consider applicable radioactive hazards and regulatory requirements for mixed waste. It is inappropriate for EPA to establish mandatory treatment standards as a condition of land disposal for mixed wastes that do not take into account both the characteristics of the waste that may render the mandatory treatment option unfeasible and NRC regulatory requirements which may prevent licensees from employing the required treatment method as a matter of law. Consequently, the Electric Utilities strongly urge EPA to account for these concerns and establish treatment standards for mixed waste that are appropriate for the hazardous component and simultaneously consistent with NRC policies applicable to the radioactive components of the mixed waste. Indeed, since EPA has considered the radioactive nature of the waste in proposing the two-year national capacity variance and in the treatment standards for such wastes as radioactive lead and mercury (see 54 Fed. Reg. at 48439, 48443), it is entirely appropriate and necessary to do the same for all mixed wastes. By doing so, EPA would not be "regulating" the radioactive hazards of mixed waste which it is legally barred from doing. See RCRA § 1004(27). Rather, EPA would be appropriately recognizing the special nature of mixed waste in formulating reasonable RCRA regulations that avoid conflict with regulatory requirements of the components of mixed waste outside of EPA's jurisdiction.

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

VIII. THE STORAGE PROHIBITION AS IT APPLIES TO MIXED WASTE REQUIRES A BROADER INTERPRETATION

RCRA section 3004(j) (42 U.S.C. § 6924(j)) provides that storage of prohibited hazardous wastes is itself prohibited "unless such storage is solely for the purpose of the accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal." EPA correctly recognizes that the purpose of this section is "to prohibit use of long-term storage to circumvent treatment requirements imposed by" the land disposal restrictions. 54 Fed. Reg. at 48496. The legislative history of section 3004(j) further clarifies that the purpose of this section is to avoid utilizing sham storage to avoid a prohibition on the disposal of a particular waste. See 129 Cong. Rec. H.8139 (daily ed. Oct. 6, 1983).

EPA has requested comment on the appropriate interpretation of section 3004(j) because of the Agency's concern that "some legitimate storage technically may be prohibited under the current approach . . . ." 54 Fed. Reg. at 48496. Accordingly, EPA has identified an "alternative approach" to interpreting section 3004(j) whereby prohibited wastes could be stored in tanks or containers "pending the utilization of proper treatment, recovery or disposal capacity." Id. Under this approach, the storage prohibition would only apply if, consistent with legislative intent, the storage in question is "surrogate disposal." Id. EPA also

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

seeks comment on "other potential situations where . . . an overly literal reading of section 3004(j) may have consequences . . . Congress did not intend." Id.

Application of the storage prohibition to mixed waste provides perhaps the best example of why EPA should interpret section 3004(j) to prohibit only surrogate disposal. Otherwise, generators forced to store mixed waste on-site for the sole reason that they lack any legal alternative would be caught in a situation in which no course of action would be acceptable.

One of the examples identified by EPA of "allowable storage" under its alternative interpretation is the circumstance where a temporary backup at a treatment facility causes a generator to store its waste until it is able to obtain access to the facility. 54 Fed. Reg. at 48496. If temporary unavailability of a treatment facility is a legitimate basis for allowing continued storage of restricted waste, certainly the across-the-board unavailability of any legally acceptable treatment or disposal option for mixed waste is an even more obvious circumstance warranting authorization of continued storage. In the case of mixed waste, storage is necessary to ensure that there will be "proper" treatment, recovery, or disposal; such storage activities should not be deemed to constitute "surrogate disposal."

Docket Number: LD12-00204 (continued)

Commenter: Electric Utilities

Comment: (continued)

Moreover, EPA has administrative discretion to exempt unusual situations from otherwise broad prohibitions. *See Alabama Power Co. v. Costle*, 636 F.2d 323, 360 (D.C. Cir. 1979); *see also Public Citizen v. Young*, 831 F.2d 1108, 1112 (D.C. Cir. 1987). Indeed, EPA recently affirmed its administrative exemption authority in its proposal to exempt from CERCLA reporting requirements certain additional releases which do not pose a significant threat even though they are not "federally permitted" and are technically required to be reported under CERCLA. *See* 53 Fed. Reg. at 27270 (July 19, 1988).

Adoption of EPA's proposed interpretation of section 3004(j) is of immediate importance for those mixed wastes subject to the land ban program (*i.e.*, "California list" wastes and listed solvents and dioxins), and is also important in establishing a reasonable regulatory program for those wastes subject to the proposed rule. The Electric Utilities strongly urge EPA to adopt its alternative interpretation of section 3004(j) that the "storage prohibition only applies if storage is surrogate disposal . . . or is otherwise undertaken for purposes of evading a land disposal prohibition." *Id.* at 48496. Furthermore, EPA should explicitly state that facilities forced to store restricted wastes, such as mixed wastes, on-site due to a lack of treatment or disposal capacity are *not* in violation of section 3004(j).

of 2

Docket Number: LD12-00245

Commenter: California Department of Health Services

Comment: pp. 1-3

California, host state for the Southwestern Low-Level Radioactive Waste Disposal Compact, endorses the position taken by the Environmental Protection Agency (EPA) in postponing the effective date of land disposal restrictions for mixed waste, defined as that waste which satisfies the definition of radioactive waste subject to the Atomic Energy Act and contains hazardous waste that is either listed as a hazardous waste in Subpart D of 40 CFR part 261 or exhibits any of the hazardous waste characteristics identified in Subpart C of 40 CFR part 261. EPA is correct in its assessment that there is inadequate treatment capacity available for these wastes. California conducted its own survey of the types and quantities of mixed waste generated within its borders. This information was evaluated as the basis for California's Conceptual Mixed Waste Management Plan (CMWMP). The CMWMP confirmed that there is inadequate treatment, storage and disposal capacity for California's commercially generated mixed wastes, and evaluated realistic treatment, storage and disposal alternatives. A copy of the CMWMP can be made available to EPA, upon request. California is also willing to share its mixed waste generator survey information, bearing in mind the confidential nature of the survey.

One issue that became evident from California's evaluation of management alternatives is the long lead times involved in the siting, design, construction and development of licensed and permitted treatment, storage and disposal facilities. These lead times are well in excess of the grace period allowed by a two-year national capacity variance. Under California's schedule, approximately four years, not two years, would be needed to develop the necessary treatment facilities. This leaves generators and storage facilities few alternatives to remain in compliance after the expiration of the two-year capacity variance. Other states can be expected to learn that the same time constraints will apply. Therefore, EPA should be prepared to come up with alternatives to the two-year capacity variance as necessary.

Guidance from EPA should be given to help states, Compacts, generators and others plan for that certain time when the two-year variance has expired and there is no treatment facility available. Will generators and others be able to petition EPA to allow extended storage under the provisions of 40 CFR 260.20? Is some other exercise of administrative relief available while best efforts are on-going to develop the necessary treatment and disposal capacity? Is there some other way to remain in compliance with the provisions of the Resource Conservation and Recovery Act (RCRA) without imposing an administrative burden on generators and others who must write these petitions? What about the administrative burden on EPA for review of multiple petitions?

Docket Number: LD12-00245 (continued)

Commenter: California Department of Health Services

Comment: (continued)

California requests that EPA consider alternatives to the two-year national capacity variance that would encourage the development or treatment capacity, while not jeopardizing the compliance status of generators and other permittees. One possible alternative is to consider mixed waste under the category of a newly designated waste. It is clear that Congress, in promulgating Sections 3004(g) and (h) of RCRA, meant to impose strict controls on the management of hazardous waste, but there was some leniency implied for " ... any hazardous waste identified or listed under Section 3001 after the date of enactment of the Hazardous and Solid Waste Amendments of 1984." For these newly designated wastes, Section 3004(g) states: " ... the Administrator shall determine whether such waste shall be prohibited from one or more methods of land disposal in accordance with paragraph (6) within six months after the date of such identification or listing." The preamble to the third-third rulemaking affirms the leniency granted to newly designated wastes. This leniency gives EPA discretion as to what extent the land disposal restriction would apply. Presumably, the discretionary authority would also apply to the timing of those restrictions. Since mixed wastes were not recognized as falling under the jurisdiction of RCRA until July 3, 1986 and guidance on the identification of mixed waste was not approved until January 8, 1987, an argument could be made that mixed waste is a newly designated waste, eligible for special consideration as to treatment or disposal by the EPA. EPA could, justifiably, conduct further analysis of the appropriate means for subclassifying this newly designated waste. Upon determination of the appropriate classification or subclassification (and potential listing by source category), the need for a national capacity variance could be re-evaluated and applied on a category-by-category basis. Additional justification for this position could be that the disposal of mixed waste, since it is accompanied by a regulated radioactive component, is already subject to restrictions and waste form requirements under the Atomic Energy Act. This waste, after all, is not totally unregulated.

California appreciates this opportunity to comment on EPA's significant proposed rule making, appreciates the postponement of land disposal restrictions for mixed wastes, and requests that additional lead time be allowed for the development of the necessary treatment and management facilities prior to enforcement of land-disposal restrictions for mixed waste, or that other alternatives be provided.

1 of 1

Docket Number: LD12-L0001

Commenter: Babcock & Wilcox

Comment: p. 1

The Babcock & Wilcox Company's Naval Nuclear Fuel Division is pleased to comment on EPA's proposed revision to mixed waste rules published in the November 22, 1989 Federal Register. The operations at our Naval Nuclear Fuel Division (licensed by the U.S. Nuclear Regulatory Commission) result in the generation of certain mixed waste streams that would be subject to the provisions of these proposed rules.

B&W supports the EPA's proposal to grant a two-year extension from the general land disposal ban of May 8, 1990 for mixed radioactive and RCRA hazardous wastes. This extension will permit a more reasoned development of alternative treatment technologies for pretreatment of these wastes prior to disposal.

Regarding the proposed revision to the 40 CFR 268.50 storage prohibition of mixed wastes currently subject to the land disposal ban, B&W offers the following comments. We agree with EPA's position that a literal reading of the current storage prohibition may not allow the storage of waste even when there is inadequate or nonexistent treatment, recovery, or disposal capacity. B&W has gone to great lengths to locate a vendor capable of treating or properly storing certain of its mixed wastes, and has found that there is no solution to either the treatment or storage problem. Although one U.S. vendor was found to possess the necessary permits for storage of B&W's mixed waste, his authorization was limited to less than 350 grams of the material. This quantity is grossly inadequate for B&W's needs, and an upgrade to his license would be profoundly cost prohibitive. B&W therefore suggests that the EPA revise its interpretation of the storage prohibition to allow storage in the case of inadequate or nonexistent capacity, such as in the case with mixed waste storage.

Docket Number: LD12-L0004

Commenter: Arizona Public Service Company

Comment: p. 1-2

In response to the proposed Environmental Protection Agency (EPA) rule published in Federal Register Volume 54, No. 224, Page 48372, dated November 22, 1989, Arizona Public Service (APS) is hereby submitting comments with regard to land disposal restrictions for mixed waste.

The attachment to this letter delineates APS's comments for your consideration. In addition, APS hereby endorses the comments on the proposed rule submitted by EER/USWAG and UWASTE.

If you have any questions, please call A. C. Rogers of my staff at (602) 340-4041.

Comments on the proposed rule on land disposal restrictions for mixed waste are as follows:

(1) National Capacity Variance (NCV) will be essential for mixed waste program. However, a two year variance will not adequately accommodate the schedule for the development of new mixed waste disposal sites.

(2) Since after May, 1992 there will be a need for onsite storage, EPA should adopt the proposed broader interpretation of the storage prohibition to allow onsite storage when inadequate or nonexistent capacity exists.

(3) On page 48380, the first option for testing may require more or duplicate sampling which is not advisable for the following reasons: First, due to the radioactive nature of mixed waste only a few laboratories are licensed to perform testing on radioactive samples. An increase in the number of samples could have an adverse effect on these laboratories' ability to perform other analysis and on the timeliness of reporting results. Second, the first option would require more shipment of radioactive material across the country then would be necessary under option two. Therefore, the second approach on testing is much more preferable than the first one.

1 of 2

Docket Number: LD12-L0007

Commenter: Chemical Manufacturers Association (CMA)

Comment: p. 43-44

CMA concurs with the Agency's intention to provide the 2-year national capacity variance for both listed hazardous wastes and characteristic hazardous wastes that are also radioactive. ("Larger volumes of mixed wastes which contain spent solvents and EP toxic metals, such as lead or chromium, are expected to be generated." 54 Fed. Reg. at 48,492/3.) Since the BDAT standards for both characteristic hazardous wastes and listed wastes involve many of the same technologies, both wastes suffer from the same lack of treatment capacity. EPA should revise the final rule at 40 C.F.R. _ 268.35(g)) as follows to more clearly state that the national capacity variance applies to both listed and characteristic mixed hazardous/radioactive wastes:

> Effective May 8, 1992, hazardous wastes listed in 40 C.F.R. __ 268.10, 268.11, and 268.12, including wastes that exhibit any of the hazardous waste characteristics identified in Subpart C of 40 C.F.R. Part 261, that are mixed radioactive/hazardous wastes are prohibited from land disposal. [Underlined phrase added; 54 Fed. Reg. at 48,511/2]

Finally, EPA has not proposed any alternative BDAT treatment levels or methods for the hazardous waste codes in the radioactive mixtures. The same treatment standards are

2 of 2

Docket Number: LD12-L0007 (continued)

Commenter: Chemical Manufacturers Association (CMA)

Comment: (continued)

imposed for such hazardous wastes as if the wastes were not also radioactive. While CMA does not have data that demonstrate that alternative BDAT levels are required for the hazardous waste in mixed hazardous/radioactive wastes, the more limited treatment alternatives available for radioactive wastes may make the BDAT standard unachievable. For instance, BDAT based on incineration will not be possible if direct incineration cannot be successfully permitted. The Agency should thus anticipate a need for treatability variances for such wastes under 40 C.F.R. _ 268.44.

Docket Number: LD12-L0013

Commenter: Advanced Nuclear Fuels (ANF)

Comment: p. 1-2

Advanced Nuclear fuels Corporation (ANF) has reviewed the proposed rule on land disposal restrictions for third scheduled wastes which was published in the Federal Register in Vol. 54, No. 224, November 22, 1989 (p. 48372).

ANF is a fabricator and supplier of light water reactor fuel. ANF operates a fuel fabrication plant which is licensed by the Nuclear Regulatory Commission (NRC). The plant is located in the southeast part of the State of Washington. We are involved in the processing and handling of low enriched uranium, and in supplying reactor services. In the course of those activities, we generate small quantities of mixed waste. These consist of low-level radioactive wastes which contain EPA-designated hazardous substances, or State of Washington-designated dangerous substances. We also store for later uranium recovery some low-level radioactive wastes containing State of Washington-designated dangerous substances.

Our comments relate to the need to continue to allow the storage of mixed waste until adequate, practical, and economical treatment and/or disposal capacity exists.

Currently, there are no low-level radioactive waste burial sites available to us for disposing of mixed waste. There are also not available any hazardous or dangerous waste treatment facilities which can treat wastes with a radioactive component. Thus, at present, the only viable options for us and many other NRC licensees possessing mixed waste are: 1) on-site storage, or 2) on-site treatment to remove one of the disposal limiting components (i.e., either the hazardous component or the radioactive component). Consequently, until practical treatment processes are available, storage is the only option.

In Section III, Subpart I - Storage Prohibition of the Supplementary Information, the EPA requests comments on whether it should revise its interpretation of the storage prohibitions of 40 CFR Part 268.50 to allow storage in the case of inadequate or nonexistent treatment or disposal capacity such as for mixed waste.

In view of the fact that storage is the only option in many cases for mixed wastes, we urge that EPA revise its interpretation of storage prohibitions to allow the continued storage of mixed waste until adequate, practical, and economical treatment and disposal capacity exists. We believe that this revised interpretation can be strengthened for mixed waste by revising 40 CFR Part 268.50 to include specific language that exempts mixed waste (radioactive and hazardous) from the storage prohibitions of 268.50.

14.2 Oppose Variance

Summary:

The Natural Resources Defense Council (NRDC; 156: pp. 1-2) commented that the proposed national capacity variance was unnecessarily broad. One of NRDC's main comments was that EPA should grant variances only for specific waste streams where stream data have been developed or at least confirmed by EPA. Citing the availability of treatment capacity for many listed and characteristic wastes, NRDC indicated that unless EPA determines such treatment technologies and/or capacity inappropriate for mixed radioactive wastes, then the two-year national capacity variance is unnecessarily and unlawfully broad and allows the Department of Energy to land dispose waste that could otherwise be treated. NRDC also suggested that EPA condition the national capacity variance on DOE waste reduction efforts.

Response:

EPA disagrees with NRDC's claim that the national capacity variance is unnecessarily and unlawfully broad. Although EPA shares NRDC's concerns over the proper management of mixed radioactive wastes, EPA believes the national capacity variance is necessary and justified. The capacity analysis was based on detailed, waste-stream specific data, and a capacity shortfall was found for every treatment technology. It is also general knowledge that treatment capacity for mixed wastes simply does not exist at this time.

NRDC indicates that EPA proposed a blanket variance based on "general data supplied by DOE." EPA based the capacity analysis primarily on DOE data because the majority of mixed radioactive wastes are generated at DOE facilities. EPA, however, also used available data on the commercial generation and management of mixed radioactive wastes during the capacity analysis.

EPA disagrees with NRDC's contention that the DOE data were "general." The data, available in the public Docket for the Third Third proposed rule, were detailed to the point of providing waste stream-specific mixed radioactive waste generation, management, and inventory information at each DOE facility generating mixed radioactive wastes. EPA believes this is the type of waste-stream specific information on which the analysis should be based.

NRDC also commented that the capacity variance be based on data developed or confirmed by EPA. All EPA capacity analyses are based on data supplied by generators and treatment facilities (i.e., the TSDR and Generator Surveys). EPA's use of DOE data, therefore, is not dissimilar from the procedure used for the other capacity analyses. EPA reviewed the DOE data for internal consistency and the Agency believes the data were properly prepared and reported. Based on surveys of DOE facilities conducted by DOE in 1989, the data set was originally developed for internal DOE use. The data were presented to EPA capacity analysis staff at several meetings in the Fall of 1989. DOE cooperated with EPA by presenting waste stream data that included both RCRA waste codes and physical form descriptions. EPA believes the data set represents the best available information on DOE mixed radioactive waste generation.

During the capacity analysis, EPA first looked at mixed radioactive waste generation at each DOE facility and compared it to on-site treatment capacity. In cases where on-site treatment capacity was unavailable, EPA assigned these volumes to treatment units at other DOE facilities where capacity existed. The outcome of this analysis was a demonstrated capacity shortfall across DOE for every treatment technology.

NRDC is correct in pointing out that sufficient treatment capacity exists for certain mixed radioactive wastes at certain DOE facilities. National capacity variances, however, are not facility-specific; they are granted to those waste codes for which EPA has determined a lack of alternative treatment capacity at the national level. In addition, EPA believes that DOE is treating those mixed radioactive wastes at sites where treatment is available.

NRDC also commented: "As EPA has already determined, there is adequate treatment capacity for many listed and characteristic wastes. Unless EPA determines that such treatment technologies are inappropriate for mixed wastes, the proposed two-year variance is unnecessarily and unlawfully broad." EPA took several steps to determine the availability of commercial mixed radioactive waste treatment capacity, including assessment of available hazardous waste treatment capacity to determine the availability of facilities accepting radioactive wastes. EPA analyzed the TSDR Survey (the main data source identifying treatment capacity) to identify treatment, storage, disposal, and recovery facilities (TSDFs) that manage mixed radioactive wastes. This analysis identified no TSDFs that would accept mixed radioactive wastes for treatment.

Recognizing that some mixed radioactive waste information may not be found in the TSDR Survey, EPA investigated other sources of information. The best source of further information was a group of reports prepared by states or groups of states (State Compacts) as required by the Low-Level Radioactive Waste Policy Act Amendments of 1985. Although focused primarily on non-RCRA low-level radioactive waste (LLW), these reports (available in the public Docket for the Third Third proposed rule) did contain information on the generation and management of mixed radioactive wastes. The only available treatment identified in these reports was a facility in Florida that accepts certain liquid scintillation cocktails. Upon further investigation, EPA determined that the facility separates liquid scintillation fluids from the vials. These solvent wastes are stored until below regulatory concern (BRC; BRC wastes are wastes with levels of radioactivity sufficiently low to be considered "below regulatory concern" with regard to their radioactive hazard) for radioactivity and are subsequently managed as hazardous (non-radioactive) wastes. The solvents are sent off-site where they undergo fuel blending and subsequent reuse as fuel.

Further investigation of data sources identified no other commercial mixed waste treatment capacity. Consequently a commercial capacity shortfall exists for all mixed radioactive waste treatment technologies.

Finally, in regard to NRDC's request for conditional capacity variances based on waste reduction efforts, EPA responds that the Agency does not have the statutory authority to grant such a variance. National capacity variances are granted solely on the analysis of required and available alternative treatment capacity for waste restricted from land disposal.

As stated earlier, EPA shares NRDC's concern over the proper management of mixed radioactive wastes, but believes the national capacity variance is necessary and justified. The capacity analysis was based on detailed, waste stream-specific data, and a capacity shortfall was found for every treatment technology. All other commenters to the proposed rule supported EPA's variance conclusion.

Comment:

The comment opposing the national capacity variance is presented here:

- Natural Resources Defense Council (NRDC) (156: pp. 1-2).

1 of 2

Docket Number: LD12-00156

Commenter: Natural ~~National~~ Resources Defense Council (NRDC)

Comment: p. 1-2

The comments specifically address mixed wastes generated by the United States Department of Energy (DOE) at its nuclear weapons production facilities.

EPA proposes to grant a two-year national capacity variance for mixed wastes. While we recognize that a capacity variance may be necessary for some mixed waste streams we believe that EPA has not justified a blanket variance for all First Third, Second Third and Third Third wastes. The unfortunate result of such a variance would be to allow DOE to land dispose, for at least another two years, substantial quantities of mixed wastes that would otherwise have been treated so as to reduce their hazard.

A blanket variance rewards DOE for its recalcitrance regarding RCRA's application to mixed wastes. Rather than taking constructive steps to manage properly its vast quantities of RCRA mixed wastes, DOE has fought the application of the law since the early 1980's. A lawsuit, substantial Congressional scrutiny and great public concern finally forced the Department to face up to its obligations in mid-1987. Had this occurred several years earlier and DOE set about developing new treatment capacity and alternatives, the need for a variance might have been reduced or eliminated, at least for some waste streams.

2 of 2

Docket Number: LD12-00156 (continued)

Commenter: ~~National~~ Natural Resources Defense Council (NRDC)

Comment: (continued)

We are also disappointed that EPA, in the more than five years since the Hazardous and Solid Waste Amendments of 1984 (HSWA) to RCRA were adopted, has not developed the information necessary to determine which mixed waste streams may require a capacity variance and which may not. Lacking this critical information EPA is now proposing a blanket variance based on general data supplied by DOE.

We believe EPA should grant capacity variances only for specific waste streams. Moreover, a variance should be granted only where there is waste-stream specific data, developed or at least confirmed by EPA, regarding the availability of alternative treatment technologies. As EPA has already determined, there is adequate treatment capacity for many listed and characteristic wastes. Unless EPA determines that such treatment technologies are inappropriate for mixed wastes, the proposed two year variance is unnecessarily and unlawfully broad. Furthermore, EPA must also condition a variance on aggressive action by DOE to reduce mixed waste generation and develop necessary treatment capacity. Otherwise, lack of capacity will remain a stumbling block to proper waste disposal when a variance, blanket or otherwise, expires.

14.3 Clarify Variance

Summary:

Three commenters requested clarification of which mixed radioactive wastes were granted the two-year national capacity variance. Envirocare of Utah (Envirocare; 208: pp. 1-4) raised the question of whether naturally occurring radioactive materials (NORM) that also contain RCRA listed or characteristic hazardous wastes fall under the definition of mixed RCRA/radioactive waste, and whether the two-year national capacity variance applies to these materials. The Department of Energy (DOE; 260: p. 2) asked whether the lead and mercury radioactive materials for which EPA proposed treatment standards were still subject to the two-year national capacity variance. Finally, the Chemical Manufacturers Association (CMA; L07: p. 43) indicated that EPA should more clearly state that the national capacity variance applies to both listed and characteristic mixed radioactive wastes by editing the capacity variance statement in the proposed rule at 54 FR 48511-2, adding the phrase ". . . including wastes that exhibit any of the hazardous waste characteristics identified in Subpart C of 40 CFR Part 261, . . ."

Response:

NORM wastes do not fall under the definition of LLW as defined in the Low-Level Waste Policy Act Amendments of 1985 (LLWPAA), so these materials do not fall under the definition of mixed RCRA/radioactive wastes, which are wastes that satisfy the definition of LLW in the LLWPAA and contain hazardous waste that either (1) is listed in Subpart D of 40 CFR Part 261, or (2) causes the LLW to exhibit any of the characteristics identified in Subpart C of 40 CFR Part 261. EPA, however, recognizes that there is insufficient treatment capacity to handle hazardous wastes that are also radioactive. Therefore, EPA is granting a two-year national capacity variance to NORM wastes that are mixed with RCRA hazardous wastes.

In regard to DOE's request for clarification, the national capacity variance covers all mixed radioactive wastes, including the lead and mercury mixed radioactive wastes for which standards have been promulgated.

Finally, EPA responds to the CMA comment by reiterating that the national capacity variance applies to characteristic RCRA wastes as well as listed wastes. This is clearly stated in the preamble to the final rule.

Comments:

The commenters requesting clarification of what mixed radioactive wastes are covered by the national capacity variance are provided as follows:

- Envirocare of Utah (Envirocare; 208: pp. 1-4);
- Department of Energy (DOE; 260: p. 2); and
- Chemical Manufacturers Association (CMA; L07: p. 43).

1 of 4

Docket Number: LD12-00208

Commenter: Envirocare of Utah, Inc.

Comment: pp. 1-4

Envirocare of Utah, Inc., operates a commercial radioactive material disposal facility under a radioactive materials license from the state of Utah. Envirocare disposes of naturally-occurring radioactive material (NORM) waste in a specially-designed landfill cell. Envirocare follows the design provisions and operating requirements for the management of a licensed radioactive waste disposal facility in compliance with the Utah Radiation Control Rules. The state of Utah has met the requirements to be an agreement state with the Nuclear Regulatory Commission (NRC) under Section 274b of the Atomic Energy Act of 1954, as amended (AEA). Under the AEA, the NRC does not administer programs for nor regulate the management and disposal of NORM waste. The NRC administers programs and regulates the management of source, special nuclear and by-product radioactive materials. NORM waste, therefore, is radioactive waste which is not subject to AEA, but is regulated by the state of Utah.

As a result of the process of establishing and amending the statute which provides enabling legislation for the promulgation of rules for the management of radioactive materials and waste, the state of Utah provided that the scope of the statute include provisions to enable the Utah Bureau of Radiation Control to promulgate rules for the management and disposal of NORM waste. Envirocare operates the NORM waste disposal facility under these state radiation control rules.

2 of 4

Docket Number: LD12-00208 (continued)

Commenter: - Envirocare of Utah, Inc.

Comment: D.2 (continued)

Through the process of conducting business with generators of NORM waste, Envirocare has also become aware of other radioactive wastes produced by those generators. Some of those radioactive wastes also meet the definition of hazardous waste in the Resource Conservation and Recovery Act (RCRA). Envirocare recognized that in order to properly accept, manage and dispose of that type of radioactive waste material, a hazardous waste permit would need to be secured and complied with, and an additional landfill cell would need to be designed, approved, and constructed.

In 1989, Envirocare submitted to the state of Utah a RCRA Part B plan approval application for the land disposal of NORM waste which may also meet the definition of hazardous waste as defined by 40 CFR 261. Envirocare's plan approval application and responses to notices of deficiencies are being reviewed by the state of Utah. Envirocare's proposed design and operation of the facility incorporate and address the items and issues which pertain both to the Utah Radiation Control Rules and to the Utah Hazardous Waste Management Rules. The Utah Hazardous Waste Management Rules are at least as stringent as the federal hazardous waste regulations as required by RCRA. (Utah has qualified for and obtained approval from EPA to administer an authorized state program for hazardous waste management.)

Although Envirocare is not a low-level radioactive materials disposal site, Envirocare's proposed radioactive/hazardous waste landfill cell design and operation also incorporate and are based on the guidance and recommendations of the directive entitled, "Joint NRC-EPA Guidance on a Conceptual Design Approach for Commercial Mixed Low-level Radioactive and Hazardous Waste Disposal Facilities."

Envirocare keeps abreast of the regulations dealing with the land disposal restrictions for hazardous waste which have been established and are still being developed in 40 CFR 268. Envirocare has not applied for a permit to treat wastes which are generated from off site. (However, the application does include the treatment of waste generated on site, i.e. leachate from the landfill, liquid wastes from analytical procedures performed in the on-site laboratory, wash-down water from vehicle and equipment decontamination, etc.) Envirocare proposes only to accept wastes which may be landfilled without further treatment. These wastes may come directly from generators (when the wastes are below the treatment standards) or from treatment facilities for wastes which otherwise are prohibited from being directly land disposed.

Docket Number: LD12-00208 (continued)

Commenter: Envirocare of Utah. Inc.

Comment: 7.3 (continued)

On November 22, 1989, as a result of the determination that there is inadequate national treatment capacity available for mixed wastes, the Environmental Protection Agency (EPA) proposed to grant a two-year national capacity variance under section 3004(h)(2) for mixed hazardous/radioactive waste.

The second comment that Envirocare is hereby rendering to the EPA is a request to clarify whether radioactive/hazardous waste which does not technically fit the description of "mixed" waste is also subject to the two-year national capacity variance.

Envirocare feels that this clarification should include an explicit definition with examples of which wastes of the universe of radioactive/hazardous waste fit the definition of mixed (AEA/RCRA) waste and which wastes do not (e.g., NORM/hazardous wastes). NORM/hazardous wastes are both radioactive and hazardous (Agreement State Statute/RCRA) waste but are not mixed (AEA/RCRA) waste.

The proposed rules as they are written in the November 22, 1989 Federal Register (and also the preambulary language) provide no variance to generators of NORM/hazardous waste since the radioactive (NORM) component of the waste is not addressed nor regulated by AEA. Generators of this type of waste face similar problems (i.e., treatment requirements) being subject to a similar "dual regulatory framework" as mixed waste generators. For generators of radioactive/hazardous (other than "mixed") waste, the plurality of regulation is a result of state and federal rules as compared to dual federal rules in the case of generators of the currently-defined "mixed" waste.

Envirocare would like to see the following issues clarified for NORM/hazardous waste. (Some of these items also need clarification for mixed waste and other radioactive/hazardous waste.):

1. Is NORM/hazardous waste subject to the national capacity variance for land disposal restricted (LDR) waste?

   a. If YES, then:

      (i) Envirocare feels that there needs to be a more explicit, inclusive, general or comprehensive definition of radioactive/hazardous waste than the exclusive and specific "mixed waste" definition currently provides. A suggestion would be to extend the variance to include all radioactive/hazardous waste.

4 of 4

Docket Number: LD12-00208 (continued)

Commenter: Envirocare of Utah, Inc.

Comment: 24 (continued)

b. If NO, then:

(i) Envirocare feels that there needs to be a discussion of the universe of radioactive/hazardous wastes with respect to the land disposal restrictions in a preamble or in the final rules to more effectively define the applicability of the restrictions to those generators and owners/operators of TSDFs of radioactive/hazardous (other than "mixed") waste so that an understanding can be reached that they are not subject to the two-year variance. This will help to avoid situations where radioactive/hazardous (other than "mixed") LDR waste is stored beyond one year or where radioactive/hazardous (other than "mixed") LDR waste is transported to a radioactive/hazardous waste non-treatment disposal facility under the erroneous assumption that "all" radioactive/hazardous waste is AEA/RCRA "mixed" waste subject to a two-year variance and may be landfilled without being treated or notified for with the manifest.

(ii) Has the EPA addressed the subject of national capacity for the treatment of radioactive/hazardous (other than "mixed") waste? Envirocare respectfully requests that the results of any such inquiries be made known in a preamble or a summary from the study.

(iii) Are generators and TSDFs who manage radioactive/hazardous (other than "mixed") waste to expect a similar variance for capacity for LDR wastes at a later date?

(iv) Where is it suggested that generators of radioactive/hazardous (other than "mixed") waste take their waste to be treated? Most currently-operating hazardous waste treatment facilities are not equipped nor licensed to comply with the issues and regulations of state and federal rules with respect to hazardous wastes which are also radioactive for the purposes of treatment.

Docket Number: LD12-00260

Commenter: Department of Energy

Comment: 72

The November 22 FR proposed rule proposes a treatment standard for radioactive lead and mercury. Is this material still subject to the 2 year National Capacity variance?

1 of 2

Docket Number: LD12-L0007

Commenter: Chemical Manufacturers Association (CMA)

Comment: p. 43-44

CMA concurs with the Agency's intention to provide the 2-year national capacity variance for both listed hazardous wastes and characteristic hazardous wastes that are also radioactive. ("Larger volumes of mixed wastes which contain spent solvents and EP toxic metals, such as lead or chromium, are expected to be generated." 54 Fed. Reg. at 48,492/3.) Since the BDAT standards for both characteristic hazardous wastes and listed wastes involve many of the same technologies, both wastes suffer from the same lack of treatment capacity. EPA should revise the final rule at 40 C.F.R. _ 268.35(g)) as follows to more clearly state that the national capacity variance applies to both listed and characteristic mixed hazardous/radioactive wastes:

> Effective May 8, 1992, hazardous wastes listed in 40 C.F.R. __ 268.10, 268.11, and 268.12, including wastes that exhibit any of the hazardous waste characteristics identified in Subpart C of 40 C.F.R. Part 261, that are mixed radioactive/hazardous wastes are prohibited from land disposal. [Underlined phrase added; 54 Fed. Reg. at 48,511/2]

Finally, EPA has not proposed any alternative BDAT treatment levels or methods for the hazardous waste codes in the radioactive mixtures. The same treatment standards are

2 of 2

Docket Number: LD12-L0007 (continued)

Commenter: Chemical Manufacturers Association (CMA)

Comment: (continued)

imposed for such hazardous wastes as if the wastes were not also radioactive. While CMA does not have data that demonstrate that alternative BDAT levels are required for the hazardous waste in mixed hazardous/radioactive wastes, the more limited treatment alternatives available for radioactive wastes may make the BDAT standard unachievable. For instance, BDAT based on incineration will not be possible if direct incineration cannot be successfully permitted. The Agency should thus anticipate a need for treatability variances for such wastes under 40 C.F.R. _ 268.44.

15. LAB PACKS

EPA received seven capacity-related comments (American Chemical Society (29); Advanced Environmental Technology Corporation (83); University of Illinois at Urbana-Champaign (139); University of California (182); University of Washington (206); American Council on Education (ACE) and National Association of College and University Business Officers (NACUB0; 248); Hazardous Waste Treatment Council (L0247)) concerning lab packs. Five commenters (American Chemical Society (29); University of Illinois at Urbana-Champaign (139); University of California (182); University of Washington (206); and American Council on Education (ACE) and National Association of College and University Business Officers (NACUBO; 248)) discussed the difficulty in finding facilities to treat and dispose of lab packs. Two commenters (American Chemical Society (29) and Hazardous Waste Treatment Council (L0247)) discussed the need for a variance for lab packs containing certain volatile metals. Two commenters (Advanced Environmental Technology Corporation (083); and American Council on Education (ACE) and National Association of College and Business Officers (248)) submitted information on volumes of lab packs that are generated. The following issues pertaining to the capacity analysis for lab packs include:

- Most Treatment, Storage, and Disposal (TSD) Facilities Will Not Accept Small Volume Wastes, Such As Lab Packs;
- Need for a Variance for Lab Packs Containing Volatile Metals; and
- Data Submission.

15.1 Most Treatment, Storage, or Disposal (TSD) Facilities Will Not Accept Small Volume Wastes, Such As Lab Packs

Summary:

Five commenters, American Chemical Society (29), University of Illinois at Urbana-Champaign (139), University of California (182), University of Washington (206), and the American Council on Education (ACE) and the National Association of College and University Business Officers (NACUBO; 248) stated that most treatment, storage, or disposal (TSD) facilities will not accept small volume and highly variable wastes, such as lab packs. American Chemical Society (29) stated that TSD facilities that do accept such small quantities of wastes either specialize in handling chemicals that are not suitable for land disposal or specialize in managing containerized wastes. The University of Illinois at Urbana-Champaign (139) stated that it is difficult to find disposal sites for lab packs of lead, mercury, and other non-incinerable hazardous wastes. The University of Washington (206) stated that the land disposal restrictions will force academic institutions into illegal storage. Also, TSD facilities will not likely accept highly variable, small volume waste streams for more unusual treatment technologies, such as mercury retorting or vitrification. The University of California (182) and ACE and NACUBO (248) stated that it was difficult to identify TSD facilities willing or able to handle lab packs.

Response:

EPA understands that some TSD facilities will not accept small, highly variable wastes such as lab packs. However, American Chemical Society (29) describes briefly how lab packs are treated at some facilities, and other commenters do acknowledge that some TSD facilities accept these wastes. For the capacity analysis, EPA takes into account the treatment capacity nationwide. Some TSD facilities accept these wastes, and EPA has determined that there is sufficient capacity nationwide to treat the small volume of lab packs requiring treatment.

Comment:

The comments relevant to this issue are presented in the following order:

- American Chemical Society (29);
- University of Illinois at Urbana-Champaign (139);
- University of California (182);
- University of Washington (206); and
- American Council on Education (ACE) and National Association of College and University Business Officers (NACUBO; 248).

Docket Number: LD12-00029

Commenter: American Chemical Society

Comment:

While treatment technologies exist that are suitable for processing many laboratory chemicals, obtaining permits and logistical difficulties limit the number of facilities that will accept laboratory quantities of chemicals. Transporters and treatment/disposal facilities favor high volume shipments of relatively invariant compositions. This fact places a disproportionately heavy burden on laboratories that produce small quantities of numerous and highly variable wastes. Most treatment, storage, and disposal facilities (TSDFs) are not willing or prepared to handle these wastes as individual materials. TSDFs that can do so either specialize in handling chemicals that are not suitable for landfill disposal (e.g., reactive chemicals that might be explosive, shock-sensitive, pyrophoric, or otherwise difficult to handle) or specialize in managing containerized waste.

Docket Number: LD12-00139

Commenter: University of Illinois at Urbana-Champaign

Comment: 312 b,d

Capacity Determinations for Lead and Mercury Wastes (III.B.1.c.)

Last year, the University disposed of only two types of hazardous wastes by direct landfill. These were lead (D008) and mercury (D009) characteristic wastes. The lead waste was contaminated sand from a firing range. Samples of the sand showed that the lead level was 50%. The waste was placed into 40 55-gallon drums while we tried to find a site willing to accept the material. We called a number of companies that were reported to recycle lead wastes, but none were interested in the waste we had. As a last resort, the waste was sent to a landfill. Based on this experience, I question whether there is any capacity for nonwastewater lead wastes.

Next to dioxin wastes, mercury wastes have proven to be the most difficult wastes to dispose over the past two years. Last year the University disposed of 7 drums of mercury contaminated debris, material that came primarily from the cleanup of mercury spills. Thermometers, mercury switches, and mercury relays have also proven to be difficult to impossible to dispose of at any price. Again, I would question whether any capacity exists for disposal of nonwastewater mercury wastes.

Finding disposal sites for laboratory quantities (lab packs) of lead, mercury, and other non-incinerable hazardous wastes, is not easy. Many small quantity generators are unable to find sites willing to take their wastes because their volumes are too small to interest contractors.

Docket Number: LD12-00182

Commenter: University of California

Comment:

Materials used for education and research, moreover, substances used in all of these operations, contribute to the University's waste stream; the land disposal restrictions to be effective May 8, 1990 will have substantive impact on the efforts of the University and its campuses to effectively manage and control its waste stream. The Agency's report, "Problems with Management of Hazardous Waste from Educational Institutions", indicates to us that the EPA is aware of the numerous differences between an industrial waste stream and the diverse and complex stream of small quantities of highly varied chemicals that compose the waste stream of a teaching and research institution. Academic institutions with this kind of complex, low volume small batch hazardous waste streams face formidable challenges: small volume restricted wastes, even where new treatment technologies have been identified, are not readily acceptable to many TSD facilities. While the EPA offers variance alternatives for wastes that cannot be treated to meet approved standards, often these, like acquisition of a Part B permit, prove too costly, and too untimely, to be practicable options for most research and teaching institutions.

JAN

Docket Number: LD12-00206

Commenter: University of Washington

Comment:

Treatment capacity is another general concern for academic and research institutions. While EPA has conducted studies of available treatment capacity, we have found during previous land disposal restrictions that this data does not apply to complex, small volume wastes. For example, there may be adequate treatment capacity for corrosive (D002), reactive (D003), and EP toxicity lead (D008) wastes individually. However, TSD facilities are unlikely to accept 100 milliliters of a waste which is D002, D003 and D008 under the proposed land disposal restrictions because meeting each of the three treatment standards would require developing a customized treatment process. Universities and colleges generate hundreds of such small volume, complex wastes which we believe we may not be able to dispose of if the land disposal restrictions are promulgated as proposed. The net effect of this will be to force academic institutions into illegal storage, since storage of restricted wastes is prohibited except for the purpose of accumulating sufficient volumes for treatment. In the scenario above, the purpose of storage would not be to accumulate sufficient volumes, as most of these wastes will be unique wastes which are generated only once.

Similarly, many of the more exotic treatment technologies proposed, such as mercury retorting and vitrification, may be available or may soon become available for moderate volume, consistent waste streams. However, we feel that it is not likely that TSD facilities will accept highly variable, small volume waste streams for these processes. These wastes will likely incur high costs for test treatment batches and for sampling, while the potential profits for treating these wastes will be quite low.

Docket Number: LD12-00248

Commenter: American Council on Education (ACE) and National Association of College and University Business Officers (NACUBO)

Comment:

In particular, because laboratory operations are not simply smaller versions of industrial processes, EPA should carefully consider the full ramifications of its actions in this rulemaking. Laboratory functions are varied and generate small amounts of different wastes that are containerized at the point of generation. Because of the small quantity and large variety of these wastes, laboratories already find it difficult to obtain treatment, storage, or disposal facilities (TSDFs) willing or able to handle them. Thus, EPA's regulations should be designed to facilitate the efforts of both educational institutions and TSDFs to appropriately manage these wastes.

15.2 Need for a Variance for Lab Packs Containing Volatile Metals

Summary:

Two commenters (American Chemical Society (29) and Hazardous Waste Treatment Council (HWTC; L0247) addressed this issue. American Chemical Society (29) was concerned about the disposal of lab packs containing volatile metals. The commenter stated that the majority of laboratory reagents and other wastes are suitable for incineration, but volatile substances such as mercury, selenium, osmium, and beryllium and their compounds cannot be incinerated. According to American Chemical Society, other than secure landfilling, there currently are no other technologies available for the safe disposal of these materials. The commenter requested a two-year national capacity variance to allow for the development of additional disposal methods for volatile metals and their related compounds.

Hazardous Wastes Treatment Council (HWTC; L0247) responded to American Chemical Society's letter requesting a variance. HWTC believes that these volatile metals can be treated by methods other than incineration. For example, mercury and selenium wastes are amenable to chemical treatment and stabilization, and osmium and beryllium wastes are also amenable to stabilization.

Response:

EPA is promulgating alternate treatment standards for lab packs containing wastes listed in Appendix IV and Appendix V. These standards include: (1) incineration as a specified method followed by treatment to meet the treatment standards for the EP toxic metals for lab packs containing the waste codes identified in Appendix IV; and (2) incineration as a specified method of treatment for a subset of organic wastes identified in Appendix V. Those waste codes not included in two appendices must be treated to the BDAT standard before land disposal. EPA is granting national capacity variances only to those wastes for which there is inadequate commercial capacity.

EPA is not granting national capacity variances for lab packs in general.

EPA agrees with Hazardous Waste Treatment Council (HWTC) that the volatile wastes about which American Chemical Society expressed a concern can be treated by methods other than incineration. For example, EPA has determined that selenium nonwastewaters can be treated by stabilization, and that there is adequate stabilization capacity. Therefore, EPA is not granting selenium wastes a national capacity variance.

Comment:

The comments relevant to the issue are presented in the following order:

- American Chemical Society (29); and
- Hazardous Waste Treatment Council (L0247).

Docket Number: LD12-00029 15-11 Lab Packs

Commenter: American Chemical Society

Comment:

While treatment is available for numerous hazardous wastes, the Society is concerned about the disposal of volatile metals. There are no simple, reasonable techniques for the recovery or recycling of many of the various compounds of volatile metals. The majority of laboratory reagents and other wastes are suitable for incineration, but volatile substances such as mercury, selenium, osmium, and beryllium and their compounds cannot be incinerated. A combination of regulatory requirements under the Clean Air Act and the concerns of incinerator operators make it inadvisable to incinerate these substances. Scrubbers are designed to collect particulates, not to collect vapors emitted from the incineration of volatile metals and their compounds. For these reasons, commercial incinerators do not accept these materials for disposal. Other than secure landfilling, there currently are no other technologies available for the safe disposal of these materials. The Society encourages EPA to pursue vigorously a research program on characterization and disposal methods for volatile metals and strongly supports a two-year national capacity variance to allow for the development of additional disposal methods for volatile metals and their related compounds.

Docket Number: LD12-L0247

Commenter: Hazardous Waste Treatment Council

Comment:

E. Lab Packs

The American Chemical Society stated the need for a two year national capacity variance for volatile metallic compounds (mercury, selenium, osmium and beryllium), that they feel are not amenable to incineration.

As discussed in our previous data comments of February 20, 1990, mercury and selenium wastes are amenable to chemical treatment and stabilization. The capacity arguments presented in Section III support that no capacity variance is needed for these wastes. Osmium and beryllium waste are also amenable to stabilization and should present no problem with available capacity considering the small volumes generated. In addition, organo selenium and mercury waste can be incinerated, with metal feed rates controlled according to the new Subpart O metals standards, to ensure adequate collection efficiency of metals by the APCE. (See EPA Guidance on Metals and Hydrogen Chloride Controls for Hazardous Waste Incinerators, Docket Document #BBSP-S0008). No selenium data is presented in this document, but collection efficiency of APCE should be similar to arsenic. Collection efficiencies for arsenic and beryllium are in excess of 95% for many types of APCE, and as high as 99% for certain types of devices. Mercury collection efficiencies peak out at 90%, which is why waste feed rates must be limited to ensure metal emissions are within the established risk standards. It is not true, however, that these waste must be totally restricted from incineration.

The capacity concerns regarding lab packs expressed by AETC (Docket #LD12-00083) are a result of certain unavailable technologies proposed such as retorting and vitrification. As commented in Section III, BDAT based on chemical precipitation/stabilization for arsenic, selenium and mercury waste, and and BDAT for high lead waste, that allows stabilization. This will address the concerns expressed by AETC.

15.3 Capacity Data Submission

Summary:

Two commenters (Advanced Environmental Technology Corporation (083); and American Council on Education (ACE) and National Association of College and University Business Officers (NACUBO; 248)) submitted data pertaining to lab packs. Advanced Environmental Technology Corporation (083), said that their facility handles 20 million pounds of containerized hazardous waste per year, of which lab packs account for 10 million pounds per year (1.2 million gallons/yr). Another commenter, American Council on Education and National Association of College and Business Officers (248), stated that large institutions may generate over 1,000 containers of waste per month.

Response:

EPA's capacity analysis is based on the volume of hazardous waste surface- and deepwell-disposed. Advanced Environmental Technology Corporation confirmed that there is treatment capacity for lab packs. The other commenter, ACE and NACUBO, have provided information on the amount of lab packs that they generate; they did not provide data on the volumes of wastes that are land disposed. Because EPA analyzes the amounts of waste that are land disposed, and not the volumes of wastes that are generated, these data were not included in the capacity analysis. EPA believes that the analysis for lab packs is accurate and that there is sufficient capacity to treat these wastes.

Comment:

The comments relevant to this issue are presented in the following order:

- Advanced Environmental Technology Corporation (083); and
- American Council on Education (ACE) and National Association of College and

Business Officers (NACUBO;248).

Docket Number: LD12-00083

Commenter: Advanced Environmental Technology Corporation

Comment:

AETC operates a fully permitted commercial hazardous waste storage and transfer station in New Jersey. This facility handles approximately twenty(20) million pounds of containerized hazardous waste per year. Of the twenty million pounds, lab packs account for approximately ten(10) million pounds per year. All of these laboratory chemicals are packaged into combustible containers and fed directly into an incinerator. 13

Docket Number: LD12-00248

Commenter: American Council on Education

Comment:

Large institutions may generate over 1,000 containers of waste per month, so any reduction in paperwork required is welcome.

16. SOIL AND DEBRIS

EPA received thirty-four capacity-related comments on soil and debris wastes (American Foundrymen's Society, Inc. (042); Glass Packaging Institute (GPI; 78); American Paper Institute (API; 095); Allied-Signal (96); Olin Chemicals (129); PPG Industries (133); General Motors Corporation (GM; 143); Hammond Lead Products (153); Waste Management Inc. and Chem Waste Management Inc. (159); Secondary Lead Smelting Association, Inc. (161); RSR Corporation (162); Ash Grove Cement Company (171); Textron (177); Battery Council International (178); Southern Pacific Transportation Company (183); E.I. DuPont De Nemours & Co. (189); Union Carbide Chemicals and Plastics Company, Inc. (190); ARCO Coal Company (193); Rohm and Haas Company (194); Owens Corning Fiberglass Corporation (195); Department of Energy (198); Electric Utilities (204); Browning-Ferris Industries (BFI; 214); Amoco Corporation (240); Nortru, Incorporated (241); State of New Jersey (253); ASARCO Incorporated (269); Strategic Minerals Corporation (STRATCOR; 271); Chemical Manufacturers Association (L0007); Owens Corning Fiberglass (OCF) Corporation (L0032); Hazardous Waste Treatment Council (HWTC; L0034); Steel Structures Painting Council (SSPC) and American Road and Transportation Builders Association (ARTBA; L0161) and HWTC (L0247)). Most commenters agreed with the proposed variances for soil and debris and requested additional variances for other treatment technologies. The following issues were submitted to EPA for consideration in the capacity analysis for soil and debris:

- Support of Proposed Variance for Combustion, Wet-Air Oxidation, Vitrification, and Mercury Retorting;
- Need for a Variance for Chromium-Contaminated Wastes;
- Need for a Variance for Lead Treatment;
- Need for a Variance for All Soil and Debris;
- Request for an Exemption for Vanadium-Contaminated Soil and Debris;
- Disagreement with Variance;

- Need for Certain Debris Capacity Unaccounted for in Analysis; and
- Capacity Estimations for Foundries.

16.1 Supports Proposed Variance for Combustion, Wet-Air Oxidation, Vitrification, and Mercury Retorting

Summary:

Several commenters (American Paper Institute (API) (095), Olin Chemicals (129), General Motors Corporation (GM) (143), Textron (177), Union Carbide Chemicals and Plastics Company, Inc. (190), ARCO Coal Company (193), Rohm and Haas Company (194), Department of Energy (198), Amoco Corporation (240), State of New Jersey (253), and ASARCO Incorporated (269)) supported EPA's proposed soil and debris variances for combustion, wet-air oxidation, vitrification, and mercury retorting.

American Paper Institute, Rohm and Haas Company, and ASARCO Inc. supported the proposed variances because of the inadequate treatment capacity and the expanded scope of EPA's Superfund remediation program, which will generate substantial contaminated soil and debris. Olin Chemicals agreed that there was limited commercial capacity for these technologies, and for mercury retorting, there was no commercial capacity. Amoco also supports the variances for soil and debris, but stated a concern that capacity will still be unavailable after two years.

Response:

In the proposed rule, EPA proposed to grant soil and debris requiring combustion, wet-air oxidation, vitrification, and mercury retorting a national capacity variance. EPA agrees with these commenters that there is insufficient capacity for combustion, vitrification, and mercury retorting. However, EPA has reevaluated the required and available wet-air oxidation capacity, and has determined that a variance for this technology is not needed, because this technology is no longer BDAT for F019 wastes. Therefore, EPA is granting a national capacity variance to soil and debris requiring combustion, vitrification, and mercury retorting. In addition, EPA is granting a national capacity variance for inorganic solids debris.

In response to Amoco's concern that capacity for these technologies will still not be available after two years, EPA has the statutory authority to extend a national capacity variance only up to two years. If commenters find that future treatment capacity is still unavailable after the national capacity variance has expired, they may apply for a case-by-case extension, as outlined in 40 CFR 268.5.

Comment:

The comments relevant to these variances are presented in the following order:

- American Paper Institute (API) (095);
- Olin Chemicals (129);
- General Motors Corporation (GM) (143);
- Textron (177);
- Union Carbide Chemicals and Plastics Company, Inc. (190);
- ARCO Coal Company (193);
- Rohm and Haas Company (194);
- Department of Energy (198);
- Amoco Corporation (240);
- State of New Jersey (253); and
- ASARCO Incorporated (269).

Docket Number: LD12-00095

Commenter: American Paper Institute

Comment:

p. 2

EPA has proposed to extend the land disposal prohibition effective date until May 8, 1992 for Third Third contaminated soil and debris wastes for which treatment standards are based on combustion, wet-air oxidation, vitrificaiton, or mercury retorting.

Proposed § 268.35(h). EPA intends that this extended effective date also apply to similar First and Second Third wastes commencing on May 8, 1990 so that generators of such wastes are treated in a manner consistent with generators of Third Third wastes. API/NFPA support these proposals and agree with the Agency that they are warranted because the expanded scope of EPA's Superfund remediation program will generate substantial contaminated soil and debris for which there is insufficient treatment capacity. 54 Fed. Reg. 48489/1-2.

Docket Number: LD12-00129

Commenter: Olin Chemicals

Comment:

Olin concurs with USEPA that a 2 year variance for contaminated soil and debris for which the BDAT is based on combustion, wet air oxidation, vitrification and mercury retorting is absolutely necessary. There is currently a limited available capacity in the U.S for these technologies. In the case of mercury retorting, there is no commercial capacity available.

Docket Number: LD12-00143

Commenter: General Motors Corporation

Comment:

GM agrees with the Agency that "there are certain problems associated with regulating hazardous wastes in soil and debris matrices." We further agree that this issue should be addressed under a separate rulemaking (page 48469).

GM also strongly supports the Agency's proposal (page 48489) to grant a two-year extension of the effective date for contaminated soil and debris for which the treatment standards proposed are based on combustion, wet-air oxidation, vitrification, or mercury retorting.

Docket Number: LD12-00177

Commenter: Textron Inc.

Comment:

In this rule, the United States Environmental Protection Agency has proposed a national capacity variance which will provide a two-year extension from the land disposal ban for soil and debris contaminated with certain wastes. Textron strongly believes that this national capacity variance is required and, therefore, strongly supports it. However, Textron also believes that the language of the proposed rule should be changed to remove an existing ambiguity.

Proposed § 268.35(h) provides for the two-year extension for certain contaminated soil and debris. However, the wastes that would be subject to an extension under § 268.35(h) could be read to be prohibited from land disposal effective May 8, 1990 in § 268.35(a). The final rule needs a provision which states that § 268.35(a) is not applicable to wastes covered by § 268.35(h). We suggest that appropriate language could be added as follows to paragraph (l):

(l) The requirements of paragraphs (a) and (b) of this section do not apply if:

. . .

(3) The wastes are included in paragraph (h) of this section.

Docket Number: LD12-00190

Commenter: Union Carbide Chemicals and Plastics Company, Inc.

Comment:

Soil and Debris--UCC supports the two year national capacity variance for soil and debris; however, UCC strongly urges the Agency to deal with the problems associated with LDR's for soil and debris. As it stands now, the BDAT standards of the original wastes carry through to contaminated soil and debris that contain low parts per million of the original listed organic or hazardous constituent. Thus, in many cases, this soil and debris that has low level contamination must be incinerated to meet BDAT standards.

Docket Number: LD12-00193

Commenter: ARCO Coal Company

Comment:

C. A Two Year National Capacity Variance Is Necessary for Soil and Debris Contaminated With First, Second and Third-third Wastes. EPA has proposed a two year national capacity extension for soil and debris contaminated with first, second and third-third wastes for which the proposed treatment standards are based on combustion, wet-air oxidation, vitrification, or mercury retorting. 54 Fed. Reg. 48489. EPA also proposed a two year national capacity extension for arsenic and selenium nonwastewaters, acknowledging that no commercial vitrification capacity exists for the treatment of these wastes. 54 Fed Reg. 48480. ARCO supports the Agency in its determination that there is inadequate capacity for both these categories of hazardous waste, and that a national capacity variance is required.

Docket Number: LD12-00194

Commenter: Rohm and Haas Company

Comment:

EPA proposes a two-year national capacity variance for contaminated soil and debris where the treatment standard is based on incineration, mercury retorting, vitrification, or wet air oxidation. See 54 Fed. Reg. at 48,511/2. R and H supports the proposed capacity variance.

In our experience, there is inadequate capacity for applying these technologies to contaminated soil and debris. Moreover, there is a greatly increasing amount of soil and debris that will soon need to be remediated at CERCLA and corrective action sites.

Docket Number: LD12-00198

Commenter: Department of Energy

Comment:

EPA is proposing to grant a two-year extension of the effective date for certain First, Second, and Third Third contaminated soil and debris for which the proposed treatment standards are based on combustion, wet-air oxidation, vitrification, or mercury retorting. EPA is also proposing to grant a two-year national capacity variance to all soil and debris contaminated with RMW.

Many DOE facilities have or will have large quantities of soil and debris requiring treatment, and currently one of the most common treatment methods is incineration. EPA has estimated that insufficient treatment capacity exists to handle soil and debris both radioactive and nonradioactive. DOE fully supports a two-year capacity variance for these wastes.

Docket Number: LD12-00240

Commenter: Amoco Corporation

Comment:

Amoco also supports the proposed capacity variance for soil and debris; however, we are concerned that capacity will remain unavailable for these materials even after the two-year period.

Soil & Debris

Docket Number: LD12-00253 16-14

Commenter: State of New Jersey

Comment:

The Department endorses EPA's plan to grant a two year capacity variance to all third third and first and second third soft-hammer wastes whose treatment is based on combustion, wet-air oxidation, vitrification or mercury retorting. This variance will postpone the impact of these restrictions on various cleanup programs throughout the country.

16-15 Soil & Debris

Docket Number: LD12-00269

Commenter: ASARCO Incorporated

Comment:

Also in this proposed rule, EPA anticipates granting a national capacity variance for soil and debris for which treatment standards are based on combustion, wet-air oxidation, vitrification or mercury retorting. 54 Fed. Reg. 48489. Asarco supports this proposed national capacity variance because it will assist in remediating certain soil and debris at CERCLA sites. But even with this capacity variance, it is inappropriate to require CERCLA site managers to obtain a treatment standard variance for soil or debris not included in the proposed national capacity variance prior to finalizing the separate rulemaking which will specifically address these materials.

16.2 Need for a Variance for Chromium-Contaminated Soil and Debris

Summary:

EPA received seven comments (Glass Packaging Institute (GPI; 78); Allied-Signal (96); PPG Industries, Inc. (133); Owens Corning Fiberglass (OCF) Corporation (195); OCF Corporation (L0032); Hazardous Waste Treatment Council (HWTC; L0034); and HWTC (L0247)) concerning chromium-contaminated soil and debris, including comments on chromium refractory bricks.

One commenter, Allied-Signal (96), stated that the current available and required capacity estimates for soil and debris requiring chromium reduction/chemical precipitation are not accurately reflected in the background document. The commenter stated that EPA made no attempt to determine the effect of the physical characteristics of soil and debris on the availability of treatment capacity. A telephone survey indicated that only four of the 34 facilities identified by EPA and B &V Waste Science and Technology Corporation say that they can treat soil, and no facilities claim that they can treat debris.

Allied-Signal also stated that EPA underestimated the volume of chromium-contaminated soil and debris requiring treatment. Allied-Signal expects to generate 42,000 tons of D007 debris over a two year period; 13,000 tons of D007 will remain hazardous after physical treatment, which accounts for over 75% of EPA's estimate of D007 soil and debris for 1990 and 1991. Allied-Signal requested a site-specific variance, a separate treatability category for D007-contaminated debris, or a two-year national capacity variance.

GPI (78), PPG Industries (133), and OCF Corporation (195) stated that there is no capacity available to treat chromium-contaminated refractory bricks. In addition, GPI requested that EPA establish a treatment variance for flue slag contaminated with chromium, cadmium, and lead, and OCF Corporation stated that a variance is need for glass slag. OCF Corporation (L0032) stated in a later letter that EPA should establish a subcategory of D007 nonwastewaters that cannot be treated with stabilization technologies, and then EPA should either (1) grant a national capacity variance for this treatability group, or (2) grant a national capacity variance for soil and debris requiring stabilization. OCF Corporation stated that although some D007 nonwastewaters can be treated with high temperature metal recovery, this treatment also requires size reduction, which is not available at a sufficient number of facilities to be considered commercially available to any generator.

Hazardous Waste Treatment Council (HWTC) (L0034) agreed with Allied-Signal and OCF Corporation concerning the treatment of D007-contaminated debris. HWTC supported "Option C" of Allied Signal's comments, which is the establishment of a separate treatability group for D007-contaminated debris. HWTC submitted a subsequent comment (L0247) stating that the issue of D007 soil and debris is not about treatment capacity, but rather treatment standards. HWTC also stated that a treatability variance can provide the relief necessary for facilities and that no capacity variance is necessary.

Response:

In the proposed rule, EPA proposed concentration standards for D007 nonwastewaters based on chromium reduction followed by chemical precipitation. Because EPA received comments stating that stabilization may be used, EPA is promulgating concentration standards for D007 nonwastewaters based on stabilization.

EPA believes that the estimated quantity of soil and debris reflected in the capacity analysis requiring treatment is the best estimation, given the available data. EPA agrees with the commenter that the volume of soil and debris requiring treatment will likely increase in the future with the RCRA corrective actions and CERCLA cleanups.

EPA agrees with Allied-Signal that the treatment capacity for chromium reduction and chemical precipitation for soil and debris was overestimated in the analysis for the proposed rule. However, EPA is now basing standards for these wastes on stabilization. According to the TSDR survey, EPA has determined that there is adequate capacity to treat chromium-contaminated soil and some debris and is not granting these wastes a national capacity variance.

EPA agrees with GPI, PPG Industries, Allied-Signal, OCF Corporation, and HWTC that some debris wastes may not be amenable to the standard stabilization treatments. Therefore, EPA has decided to establish a separate treatability group for debris that would have to be crushed or otherwise reduced in size prior to stabilization in order to comply with the D004 through D011 treatment standards. EPA is identifying this group of D004 through D011 wastes as "inorganic solids debris." Wastes in this treatability group are defined as follows: nonfriable inorganic solids that are incapable of passing through a 9.5 mm standard sieve that require crushing, grinding, or cutting in mechanical sizing equipment prior to stabilization, limited to the following inorganic or metal materials: (1) metal slags (either dross or scoria); (2) glassified slag; (3) glass; (4) concrete (excluding cementitious or pozzolanic stabilized hazardous wastes); (5) masonry and refractory bricks; (6) metal cans, containers, drums, or tanks; (7) metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment; and (8) "scrap metal" according to 40 CFR 261.1(c)(6).

EPA believes that much of the chromium-contaminated debris (as well as the cadmium- and lead-contaminated flue slag) referred to by the commenters are part of this treatability group. EPA has determined that there is inadequate capacity to treat inorganic solids debris. EPA disagrees with HWTC that a treatability variance would provide the relief necessary for these facilities. Therefore, EPA is granting a national capacity variance for inorganic solids debris, which include the D007-contaminated debris that are in this treatability group.

Comment:

The comments relevant to this issue are presented in the following order:

- Glass Packaging Institute (GPI; 78);
- Allied-Signal (96);
- PPG Industries, Inc. (133);

- Owens Corning Fiberglass (OCF) Corporation (195);
- Owens Corning Fiberglass (OCF) Corporation (L0032);
- Hazardous Waste Treatment Council (HWTC) (L0034); and
- Hazardous Waste Treatment Council (HWTC) (L0247).

Docket Number: LD12-00078

Commenter: Glass Packaging Institute (GPI)

Comment:

B. Chrome-bearing Brick

GPI is currently conducting tests to determine the effectiveness of stabilization at decreasing the leachability of chromium in chrome-containing bricks removed from glass furnaces. Unlike flue slag, the sulfate content of brick waste is not significantly higher than the wastes EPA used to establish BDAT for these metals. However, the brick's physical composition and waste generation rate may be unique, thus warranting special consideration.

Unlike sludge, bricks must be pulverized before they are treated, thus requiring stabilization vendors to purchase special equipment to conduct this step. Such equipment will have to be fairly large, given that when a typical furnace is repaired, about 300 tons of waste are produced. Such bricks are not unique to the glass industry. Cement and lime manufacturers, and other types of kilns use chromium-containing refractories as well, and thus may be contributing to the volume of D007 waste requiring crushing before stabilization.

As for HTMR, chrome-containing bricks are used in glass furnaces because they are heat resistant. Thus, a technology like HTMR, which involves melting waste in order to volatilize certain metals, is inappropriate for these bricks.

Docket Number: LD12-00078 (continued)

Commenter: Glass Packaging Institute (GPI)

Comment: (continued)

V. Conclusion

These comments demonstrate the danger of imposing specific treatment limits on D006, D007 and D008 waste based on transfer of performance data from other wastes containing these metals. Stabilization may indeed decrease the leachability of chromium, cadmium, and lead in flue slag and refractory brick. However, no empirical evidence exists for concluding that these levels will be (1) below the characteristic levels for these metals, or (2) an order of magnitude below these levels, as required under the proposed rule. Therefore, for characteristic wastes for which EPA lacks any stabilization data, but nonetheless believes that stabilization will minimize leaching of metals, EPA should prescribe a method of treatment (i.e., stabilization) rather than a treatment level. This suggestion is similar to the alternative approach EPA is considering for D006 waste.

7-d. Regarding the rule's effective date, GPI is concerned that when EPA determined that sufficient stabilization capacity exists to treat the "Third-Third Waste," chrome-containing refractory bricks were not taken into account. These bricks are generated by industries other than glass manufacturing, and typically are produced in quantities that likely far exceed the capacity of a typical stabilization vendor. A further complicating factor is that these vendors generally lack equipment necessary to pulverize the bricks before they can be added to the facility's stabilization process. Consequently, GPI

Docket Number: LD12-00078 (continued)

Commenter: Glass Packaging Institute (GPI)

Comment: (continued)

requests that EPA extend the effective date for debris (e.g., chrome-containing refractory brick) where the applicable BDAT standard is based on stabilization. This approach modifies EPA's proposed extension of the rule's effective date for debris to reflect that insufficient capacity exists for a fifth type of technology (i.e., crushing/stabilization) to treat debris.

Regarding flue slag, if EPA rejects GPI's suggestion to promulgate the method of stabilization rather than specific stabilization-based treatment limits for chromium-, cadmium-, and lead-containing wastes, GPI urges EPA to establish a generic treatment variance from these limits for high-sulfate containing wastes. Again, although GPI's stabilization data on this waste will not be available until February, in light of EPA's finding that sulfates reduce the dimensional stability of the cured matrix, it is predictable that flue slag and other high sulfate-containing wastes cannot be stabilized to achieve the proposed BDAT limits.

Rather than rely on site-specific treatability variances for this waste, a generic variance is needed to provide the inevitable regulatory relief that will be required from the final rule. Not only would EPA need to devote substantial resources to process individual variances, but of greater importance, until the variances are granted, generators of these wastes cannot dispose of them. This in turn will lead to the stockpiling of these wastes, which itself is problematic given the prohibition

Docket Number: LD12-00078 (continued)

Commenter: Glass Packaging Institute (GPI)

Comment: (continued)

on storing such wastes (40 C.F.R. § 268.50) for purposes other than facilitating treatment. Consequently, if EPA promulgates treatment levels for D006-D008, a generic variance from these levels should be promulgated for high-sulfate containing wastes.

Docket Number: LD12-00096

Commenter: Allied-Signal

Comment:

I. The Allied Baltimore Chrome Chemical Works

The Works produced chromium-based chemicals from chrome ore under the ownership of various companies from 1845 until 1985, whe Allied closed the Works. Since closure in 1985, Allied has worked with the the Maryland Department of the Environment ("MDE") and EP Region III ("EPA") to develop a plan for dismantlement of the buildings and remediation of D007 contamination at the Works. Allied, MDE, and EPA agreed upon a $70 million corrective action plan and executed a binding RCRA Consent Decree incorporating the plan last May. On September 29, 1989, the U.S. District Court for Maryland entered the Consent Decree.

The Consent Decree includes a Dismantlement Plan. Pursuant to this Dismantlement Plan, Allied expects to generate approximately 42,000 tons of debris. See Table I. Virtually all of the hazardous debris is contaminated with chrome (D007), but not with any other hazardous waste. Under the Dismantlement Plan, Allied will treat this debris physically, using methods such as high-pressure water blasting, wood shaving, vacuuming, and similar physical separation methods. Most removed contamination will be treated in an onsite wastewater treatment plant that operates under an NPDES permit, and sludge will be disposed off site in a manner that will comply with RCRA and the Proposed Rule. As a result of this physical treatment, Allied expects to be able to dispose of approximately 29,000 tons of debris as non-hazardous waste. For example, approximately three-fourths of the structural steel and all of the equipment at the Works is contaminated with chromium, but these materials will be rendered non-hazardous after physical treatment. In this manner, Allied will be able to reduce by almost two-thirds both the volume and toxicity of the D007-contaminated debris at the Works. Approximately 13,000 tons will remain hazardous using the EP Toxicity test. Under the Dismantlement Plan, this material is to be disposed in a RCRA-permitted landfill. The parties anticipated that the debris would go to the RCRA-permitted D007 monofill operated by the State of Maryland at Hawkins Point.

At Allied's request, B&V Waste Science and Technology Corporation contacted all of the thirty waste treatment providers listed in the EPA docket, plus four additional facilities to which it was referred by those providers, regarding treatment technologies capable of reducing the chromium levels in its debris to the proposed BDAT levels. Each of these companies indicated that it did not have a demonstrated and available waste treatment technology capable of treating D007-contaminated debris. Appendix 1 contains records of each of the telephone contacts, a summary memorandum, and a table summarizing these contacts (the "B&V Telephone Survey").

Docket Number: LD12-00096

Commenter: Allied-Signal

Comment: (continued)

The Preamble to the Proposed Rule correctly recognizes that contaminated soil and debris have certain unique problems associated with their treatment. 54 Fed. Reg. 48469. These problems are particularly acute for debris, which can range in size from small particles to large tanks and buildings. Id. Accordingly, EPA has acknowledged the need to establish separate treatability groups and separate treatment standards for contaminated soil and debris. Id. Nevertheless, EPA has not made the required BDAT or capacity determinations as part of this Proposed Rule; instead, EPA has arbitrarily lumped soil and debris together with the materials for which the prescribed BDAT technology may be appropriate. Moreover, EPA has not granted a National Capacity Variance to D007-contaminated soil and debris because the BDAT is not combustion, vitrification, mercury retorting, or wet air oxidation. 54 Fed. Reg. 48489 and 48511 (proposed 40 C.F.R. 268.35(h)).

3. Available Capacity. Examination of the docket materials indicates that EPA has made inappropriate estimates of both the available treatment capacity for D007 soil and debris (12 million gallons per year) and the anticipated quantity to be disposed (2.1 million gallons per year). With regard to capacity, the soil and debris treatment capacity figure was derived by calculating the remaining wastewater treatment capacity after all other D007 wastes had been accounted for, without regard to whether the available capacity could actually be used to treat soil or debris (as opposed to liquid D007 waste). EPA made no attempt to determine the effect of the physical characteristics of soil and debris on the availability of treatment capacity. See Appendix 2. The B&V Telephone Survey indicates that only four of the 34 facilities identified by EPA and B&V say they can treat soil, and none of the facilities claims that it can treat debris.

With regard to the waste generation estimate of 2.1 million "gallons" per year (8,750 tons, using EPA's conversion factor), the basis of this figure was actual D007 soil and debris volume from 1986. This figure clearly does not take into account the exponential growth in the number of RCRA corrective action and CERCLA cleanups. Allied's projected waste volume of 13,000 tons over two years from the Works alone would account for over 75% of EPA's nationwide generation estimate of D007 soil and debris for 1990 and 1991. The total volume of contaminated debris from RCRA corrective actions and Superfund remediations will overwhelm EPA's projected amount of available treatment capacity unless these projects are simply stopped until EPA completes a follow-up rulemaking for soil and debris. This result runs completely counter to EPA's stated intention to accelerate the RCRA Corrective Action and CERCLA remediation programs.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

Allied proposes that one of the four following options could solve its unique problem. EPA could

A. grant site-specific variances in the Final Rule to all sites that were subject to binding RCRA Corrective Action Consent Decrees prior to November 22, 1989 and specify land disposal after a prescribed treatment, whether or not the otherwise-applicable BDAT performance standards will be met;

B. grant the Baltimore Works a site-specific variance as part of the Final Rule and specify land disposal after a prescribed treatment, whether or not the otherwise-applicable BDAT performance standards will be met;

C. establish a separate treatability category for D007-contaminated debris and promulgate a technology-based standard as BDAT; or

D. issue a two-year national capacity variance for all D007-contaminated debris.

Allied urges the adoption of either alternative A. or B.

A final alternative would be to grant a National Capacity Variance for D007-contaminated debris, relying on the evidence in Appendices 1 and 2 to show that no capacity is available. While this approach fits most easily into the current rulemaking scheme, it is less persuasive analytically than any of the other options listed here. The reason for this conclusion is that the supposed lack of "capacity" does not represent an insufficient supply of some known, demonstrated treatment technology by which D007-contaminated debris could be treated to meet the numerical treatment standards announced in the Proposed Rule; rather, it reflects the fact that no demonstrated technology exists that can bring debris into compliance with the D007 BDAT standards, because the physical characteristics of debris make the contemplated D007 treatment technology unworkable. Nevertheless, a two-year National Capacity Variance for D007 debris would be an acceptable solution to Allied's dilemma, because in that period Allied could complete the dismantlement and disposal of its debris.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

TABLE I

ALLIED-SIGNAL INC.
BALTIMORE DEBRIS ESTIMATES
PRELIMINARY DRAFT

MATERIAL	NON-HAZARDOUS TONS	HAZARDOUS TONS	TOTAL WEIGHT TONS
Block	951	0	951
Brick (Building)	920	1,260	2,180
Brick (Refractory)	0	1,320	1,320
Chimney	311	0	311
Concrete	3,009	2,669	5,678
Concrete (Precast)	293	0	293
Concrete (Floor Slab)	0	3,915	3,915
Masonry	1,594	0	1,594
Tile (Acid)	0	1,620	1,620
Tile (Asphalt)	5	0	5
Tile (Glazed)	2	0	2
Tile (Wall)	1,296	170	1,466
Wall Board	8	0	8
Plaster	24	0	24
Siding (Transite)	394	100	494
Glass	40	0	40
Insulation	0	109	109
Lumber	854	58	912
Conduit	265	397	662
Piping	529	794	1,323
Steel	12,277	0	12,277
Equipment	6,331	701	7,032
Equipment, Boiler	112	0	112
Chemical Residuals	0	424	424
TOTALS	29,215	13,537	42,752

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B&V WASTE SCIENCE AND TECHNOLOGY CORP.

APPENDIX 1

Allied-Signal Inc.
Baltimore Works

Project No. 04190.050
January 4, 1990

To: Mark A. Sylvester

From: Sheryl A. Chesnutt SAC

Dear Mr. Sylvester:

As per your request, I have investigated the Available Capacity and the Required Capacity for treatment of D007 soil an debris by chromium reduction/chemical precipitation. More specifically, I researched treatment facilities in an attempt to verify the 12 million gallons per year of Available Capacity for soil and debris waste by chromium reduction/chemical precipitation as stated in Table 6 of the USEPA's Background Document for Third Third Wastes to Support 40 CFR Part 268 Land Disposal Restrictions, November 1989.

My investigative method included contacts with the USEPA and available treatment facilities, as well as a review of pertinent regulatory documents. Telephone correspondence with Joanne Bassi, representing the USEPA's Office of Solid Waste and responsible for the capacity analysis as outlined in the aforementioned document, provided the names of the facilities that contributed to the 12 million gallons per year of Available Capacity. Joanne stated that a list of the treatment facilities which comprised the Available Capacity by chromium reduction/chemical precipitation was provided in Table 5-2, (pages 85-87) of the Commercial Treatment/Reducing Capacity Data Set document prepared by Versar, November 1989. Joanne Bassi also explained how the Agency derived both the Available and Required Capacities from the TSDR Survey of 1987. Refer to the attached telephone memorandum for a complete account of our conversation.

Subsequently, each of the individual facilities were contacted by telephone to determine their current chromium reduction/chemical precipitation treatment capacity for soil and debris. Each facility was first asked if they were able to treat soil and debris by chromium reduction/chemical precipitation. If the facility responded that they were able to treat soil and debris by this treatment method, they were then further queried as to restrictions imposed by material type (i.e. soil and/or debris) concentration limitations, debris material size, and prior treatment history. If a facility was unable to treat soil and debris but knew of a treatment facility which could treat soil and debris, that facility was then contacted.

I conclude from this investigation that the current available treatment capacity for soil and debris treatment by chromium reduction/chemical precipitation is not accurately reflected in the USEPA's Background Document for Third Third Wastes to Support 40 CFR Part 268 Land Disposal Restrictions. Generally, the majority of

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

the treatment facilities contacted said they were unable to treat D007 debris of the kind generated at the Baltimore Works. Others speculated that they might be able to handle limited quantities of finely divided nonwasterwaters; several specified that the material would have to be "pumpable". No representative at any of the 34 facilities contacted made a credible offer to provide the capacity to treat the Baltimore Works debris by chromium reduction/chemical precipitation.

SAC:em

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

TREATMENT CAPACITY SURVEY FOR D007 SOIL AND DEBRIS NA. ASED ON THE FACILITIES LISTED WITHIN TABLE 5-2 OF THE COMMERCIAL TREATMENT/RECOVERY CAPACITY DATA SET, PREPARED FOR THE USEPA BY VERSAR, INC., NOVEMBER, 1989

NAME*	ADDRESS*	EPA ID NUMBER*	1986 AVAILABLE CAPACITY* MILLION GALLONS/YEAR	1988 AVAILABLE CAPACITY* MILLION GALLONS/YEAR	AVAILABLE CAPACITY FOR SOIL** MILLION GALLONS/YEAR	AVAILABLE CAPACITY FOR DEBRIS** MILLION GALLONS/YEAR	COMMENTS
[illegible] COMPANY	PHOENIX, AZ	AZD000002731	0	0	0	0	
IT CORP VINE HILL	VINE HILL, CA SAN JOSE, CA	CAD000094771 CAD000094771	0 0	-1.090 -3.920	0 0	0 0	Inactive Site
CASMALIA RESOURCES	SANTA BARBARA, CA	CAD020748125	12.097	15.210	0	0	
SOLVENT SERVICE INC	SAN JOSE, CA	CAD059494310	3.566	3.566	0	0	
PACIFIC TREATMENT CORP	SAN DIEGO, CA	CAD095894556	2.770	2.770	0	0	
CECOS INTERNATIONAL INC	BRISTOL, CT	CTD000604488	2.924	2.924	0	0	
ENVIRITE CORPORATION	THOMASTON, CT	CTD093616613	0.911	0.911	0	0	Wastewater only
CHEM-CLEAR INC	CHICAGO, IL	ILD000608471	0.201	0.201	0	0	
ENVIRITE CORPORATION	HARVEY, IL	ILD000666206	2.550	2.550	3.120 - 6.240	0	50-100 Tons/day, soil only, 5 days/week
CID LANDFILL	[illegible], IL	ILD010284248	5.314	5.314	0	0	
ROLL COATER	GREENFIELD, IL	ILD000642007	0	0	0	0	
TRICIL ENV. SERVICES INC	MUSKEGON, MI	MID072505755	0.503	0.503	0	0	
CYANOKEM	DETROIT, MI	MID098011992	10.011	10.011	0	0	Could potentially treat (2) 14 Ton roll-off boxes/week debris, only 3' x 3' max., only if the required treatment for chrome is not equal to K062 waste (0.094 ppm)
CHEMICAL MANAGEMENT	FARMINGDALE, NY	NYD000691949	0	0	0	0	
CHEM-CLEAR INC	CLEVELAND, OH	OHD000724153 OHD000724153	0.210 20.072	0.210 20.072	0 0	0 0	
ALCHEM-TRON	RICHFIELD, OH	OHD077706399	0.044	0.044	0	0	Inactive Site
TRICIL ENV. SERVICES INC	DAYTON, OH	OHD001290611	0.022	0.022	0	0	
ALCHEM-TRON	CLEVELAND,OH	OHD000569438	0.106	0.106	0	0	
MILL SERVICES INC	PITTSBURGH, PA	PAD000007072	12.062	12.062	0	0	Currently performing lime stabilization, have not treated waste via chrome reduction but "possibly" could if waste is pumpable, 200 tons per day, soil only Module I permit required, Refer to phone memo
WASTE CONVERSION INC	COLMAR, PA	PAD085690592	2.965	2.966	4.360	0	50 Tons/day, soil only, 7 days/week
GRACE LABORATORIES	GREER, SC	SCD050754709 SCD050754709 SCD050754709	0.001 0.157 0.020	0.001 0.157 0.020	0 0 0	0 0 0	
TRICIL ENV. SERVICES INC	ANTIOCH, TN	TND000772277	31.170	31.170	0	0	
STANDARD INDUSTRIES	SAN ANTONIO, TX	TXD990709605	4.500	4.500	0	0	
CHEMICAL PROCESSORS INC	SEATTLE, WA	WAD000812917	5.009	5.009	0	0	Never returned my call
CHEMICAL PROCESSORS INC	TACOMA, WA	WAD020257945 WAD020257945	0.717 0.717	0.717 0.717	0 0	0 0	
		SUBTOTAL	126.787	124.090	7.480 - 10.600	0	
ADDITIONAL TREATMENT FACILITIES IDENTIFIED DURING CAPACITY SEARCH							
ENVIRITE CORPORATION	YORK, PA	NA	NA	NA	1.240	0	20 Tons/day, soil only, 5 days/week
ENVIRITE CORPORATION	CANTON, OH	NA	NA	NA	0.936 - 1.240	0	15-20 Tons/day on a limited basis calculation assumes 5 days/week all year
CHEM-CLEAR INC	BRAINTREE, MA	NA	NA	NA	0	0	Wastewater only
CHEM-WASTE MANAGEMENT	RIVERDALE, IL	NA	NA	NA	0	0	Able to "stabilize" soil, refer to phone memo
		TOTAL	126.787	124.090	9.672 - 13.104	0	

NA = Not Available

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

APPENDIX 2

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 27, 1989
Time: 10:35 A.M.

To
Contact: Joanne Bassi
Company: Office of Solid Waste (USEPA)
Telephone No.: 202-475-6672
Recorded by: SAC

Q: How was the 12 million gallons per year (MG/Y) of Available Capacity for Chromium Reduction and Chemical Precipitation derived in Table 6: Required Chromium Reduction and Chemical Precipitation derived in Table 6: Required Alternative Commercial Treatment/Recycling Capacity for Soil and Debris Waste, in the Background Document for Third Third Wastes To Support 40 CFR Part 268 Land Disposal Restrictions (Executive Summary November, 1989)?

A: Refer to the Commercial Treatment/Recovery Capacity Data Set prepared by Versar Inc., November, 1989 which contains a complete listing of the entire Treatment Storage Disposal and Recycling (TSDR) Survey Data Base. Table 5-2 lists the companies which responded during the TSDR Survey; these companies responded that they were able to treat wastes by certain technologies. Pages 85-87 list the facilities capable of treating waste via chromium reduction/chemical precipitation.

The subtotal for 1988 Available Capacity equals 124,098,220 gallons/year (Available Capacity = Maximum Capacity less current client needs).

During the "Background..." analysis Joanne used the 124 MG/Y and subtracted off the available capacity utilized by:

- Solvents and Dioxins
- California List Wastes
- First Third Wastes
- Second Third Wastes
- Third Third Non-Soil and Debris Wastes
- Deep Well Injections (for all previous categories)

Joanne came up with a total of: 12 MG/Y of Available Capacity for treatment by chrome reduced and chemically precipitated soil and debris wastes.

Million gallons of waste uses the USEPA conversion factor equivalent to 240 gallons per ton of waste.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 27, 1989
Time: 11:15 A.M.

To
Contact: Alisa Sirianinni (Waste Acceptor)
Company: CECOS International, Inc.
Telephone No.: 203-583-8917
Recorded by: SAC

Bristol, Connecticut
Buffalo, New York (Home Office)

Q: Can CECOS International, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: CECOS International, Inc. does not treat bulk solids via chrome reduction at any of the CECOS facilities. CECOS International, Inc. is able to dispose of drummed solids in their Louisiana landfill only. Their system is unable to handle soils and/or debris by any chemical treatment technologies at the present time. Alisa stated that "in the future CECOS International, Inc. maybe able to treat small diameter particle sizes" but that she was unaware if CECOS had any firm plans to build such a facility. CECOS International, Inc. treats liquid waste streams via chrome reduction and there is no chromium concentration limitations.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 27, 1989
Time: 1:15 P.M.

To
Contact: Walter Vengahus (Sales Manager)
Company: Envirite Corporation
Telephone No.: 203-283-8235
Recorded by: SAC

Thomaston, Connecticut
York, Pennsylvania (Home Office)

Q: Can Envirite Corporation treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: No solids are handled at the Thomaston facility, only liquid wastes coulc be treated via chrome reduction. As a whole the Envirite Corporation is unable to handle bulk debris, although the company can treat soils by chemica precipitation processes. Walter suggested I speak with the other Envirite Corporation offices which have the ability to treat solids:
1. York, PA 717-846-1900 Jeff Urey
2. Harvey, IL 312-596-7040 Doug Newman
3. Canton, OH 216-456-6238 Tom Yablonski

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 27, 1989
Time: 1:25 P.M.

To
Contact: Jeff Urey (Sales Manager)
Company: Envirite Corporation
Telephone No.: 717-846-1900
Recorded by: SAC

York, Pennsylvania (Home Office)

Q: Can Envirite Corporation treat chromium contaminated soil and debris by t chrome reduction/chemical precipitation treatment process?

A: Envirite Corporation facilities are only capable of treating soils t chemical treatment processes, they are unable to treat bulk debris. In orde to treat debris by chrome reduction the debris must be less than 1/2" diameter. Envirite Corporation would require a sample to determine if the treatment process would be able to handle the waste and render noncontaminated. The available capacity at the York facility for soils on would be approximately 20 tons per day with operations only 5 days per week.

20 tons/day X 5 days/week X 52 weeks/year X 240 gallons/ton* = 1,248,000 gal/ye

*USEPA Conversion Factor

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 27, 1989
Time: 1:45 P.M.

To
Contact: Sylvia Romero
Company: Pacific Treatment Corporation
Telephone No.: 619-233-0424
Recorded by: SAC

San Diego, California

Q: Can Pacific Treatment Corporation treat chromium contaminated soil and debri by the chrome reduction/chemical precipitation treatment process?

A: The Pacific Treatment Corporation does not treat soil and/or debris vi chrome reduction; they are strictly a wastewater treatment facility. Pacifi Treatment Corporation would be able to landfill soil and debris if needed although without any chemical treatment processing prior to disposal.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

BVWST Project #: 04190
Date: December 27, 1989
Time: 2:15 P.M.

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

To
Contact: Sherry Mobley
Company: Casmalia Resources
Telephone No.: 805-937-8449
Recorded by: SAC

Santa Barbara, California

Q: Can Casmalia Resources treat chromium contaminated soil and debris by th
chrome reduction/chemical precipitation treatment process?

A: Casmalia Resources does not treat solids by chrome reduction/chemica
precipitation. They have a Class 1 landfill which they currently utilize fc
bulk stabilization waste from acid/alkaline neutralization byproducts. At or
time Casmalia Resources precipitated metals but they no longer do that proces
since they use the metals in the stabilization process as binders. Sherry al
informed me that Casmalia Resources is currently under permitting restrictio
and will not be fully operational until late February 1990.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 9:20 A.M.

To
Contact: Rob Drinkwater (Sales)
Company: Alchem-Tron, Inc.
Telephone No.: 216-441-5628
Recorded by: SAC

Cleveland, Ohio

Q: Can Alchem-Tron, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Alchem-Tron, Inc. has been GSX for approximately 1 year and they are a wastewater treatment, drum transfer station, soil blending, and cyanide treatment facility. GSX can perform chrome reduction on waste streams but not on solids including soils and debris. Rob informed me that GSX previously treated solids by means of a mechanical stabilizing unit but they are currently renegotiating a Part B permit from the State. If the permit is approved there is a possibility that GSX could treat soil and debris via mechanical stabilization but Rob was unsure of the available capacity, the sizing limitations, and the types of materials suitable to be processed.

Rob stated that the other Alchem-Tron in Richfield, Ohio (EPA Identification Number OHD077786309) is an inactive site which performed laboratory analysis and various other engineering tasks.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 9:30 A.M.

To
Contact: Jim Labstet (Operations Manager)
Company: Chem-Clear, Inc. (Clean Harbors, Inc.)
Telephone No.: 312-646-6202
Recorded by: SAC

Chicago, Illinois
Wayne, Pennsylvania (Home Office)

Q: Can Chem-Clear, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Chem-Clear, Inc. can not handle any solids at the Chicago facility. Jim told me to try the Braintree, Massachusetts (617-380-4390) because if any of the Chem-Clear, Inc. facilities could handle soil and debris it would be at that plant.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 9:40 A.M.

To
Contact: Eric Baker (Operations Manager)
Company: Chem-Clear, Inc. (Clean Harbors, Inc.)
Telephone No.: 617-380-4390
Recorded by: SAC

Braintree, Massachusetts
Wayne, Pennsylvania (Home Office)

Q: Can Chem-Clear, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: The Braintree facility does not treat any solids by chemical treatment processes, they send solid wastes to an "ultimate disposal facility" which landfills soil and/or debris wastes. Eric told me he would find out if there was an "ultimate disposal facility" available for chromium contaminated soil and debris and call me back.

9:55 A.M.
Return telephone call from Eric who informed me that Chem-Clear, Inc. would not be able to handle the chromium contaminated soil and debris waste because there were no "ultimate disposal facilities" available.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 10:10 A.M.

To
Contact: Secretary
Company: Tricil Environmental Response, Inc.
Telephone No.: 513-298-0836
Recorded by: SAC

Dayton, Ohio (Home Office)

Q: Can Tricil Environmental Response, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Dayton, Ohio is the Corporate Headquarters and there are no sales people in Dayton to speak with; the secretary gave me the number of the Hilliard office (614-876-1168) and suggested I speak with Dave Johnson in Public Relations.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 10:15 A.M.

To
Contact: Mike Sonyak (Operations Manager)
Company: Chem-Clear, Inc. (Clean Harbors, Inc.)
Telephone No.: 216-429-2401
Recorded by: SAC

Cleveland, Ohio
Wayne, Pennsylvania (Home Office)

Q: Can Chem-Clear, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: The Cleveland facility could not treat any solids; the waste must be pumpable in order for Chem-Clear, Inc. to treat by chrome reduction. The Cleveland facility has treated some sludges with a maximum solids content of 20%, although the plant is designed for strictly aqueous wastes streams. Mike suggested I speak with the other Chem-Clear, Inc. facilities because one of them may be able to handle solid wastes by chrome reduction on a limited basis.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 10:25 A.M.

To
Contact: Doug Newman (Sales Manager)
Company: Envirite Corporation
Telephone No.: 312-596-7040
Recorded by: SAC

Harvey, Illinois
York, Pennsylvania (Home Office)

Q: Can Envirite Corporation treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Envirirte Corporation possibly could treat soil only via chrome reduction depending on the concentration of each load; they would need a sample prior an agreement to treat. Doug told me that he had just rejected a load of s because the hexavalent chromium concentration was too high - 30,000 ppm. The Illinois facility of the Envirite Corporation could potentially treat 50-100 tons per day of soil only by chrome reduction/chemical precipitation with operations proceeding 5 days per week if the chromium concentrations were not excessive.

Doug also stated that Envirite Corporation may be able to handle some of the debris depending on the particle size. The maximum size must be between 1/2" to 1" in diameter for their system to handle it properly. Doug would not speculate as to the volume of small particle sized debris that Envirite would be able to treat by chromium reduction because "it depends on many factors".

50 tons/day X 5 days/week X 52 weeks/year X 240 gallons/ton* = 3,120,000 gal/year

100 tons/day X 5 days/week X 52 weeks/year X 240 gallons/ton* = 6,240,000 gal/year

*USEPA Conversion Factor

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 10:35 A.M.

To
Contact: Keith Bullock (Operations Manager)
Company: Chemical Management, Inc.
Telephone No.: 516-249-4384
Recorded by: SAC

Farmingdale, New York

Q: Can Chemical Management, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: No, Chemical Management, Inc. does not treat any solid matrices because their system can only treat aqueous wastes. Chemical Management, Inc. could treat a liquid waste by chrome reduction/chemical precipitation if needed.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 10:45 A.M.

To
Contact: Tom Yablonski (Operations Manager)
Company: Envirite Corporation
Telephone No.: 216-456-6238
Recorded by: SAC

Canton, OH
York, Pennsylvania (Home Office)

Q: Can Envirite Corporation treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: The Ohio facility is not set-up to do chrome reduction on solids including soils and debris. Envirite Corporation could possibly handle some soil, depending on the particle size, on a very limited basis. Tom stated that the Ohio facility may be able to treat 15-20 tons per day of soil only on a limited basis (i.e. not every day of the week and not every week) by chrome reduction when I pressed him for a volume. Tom referred me to the other Envirite Corporation offices which have systems in place to handle soils by chrome reduction.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 10:55 A.M.

To
Contact: Cheryl Kaker (Sales Manager)
Company: Groce Laboratories, Inc./Aqua Tech
Telephone No.: 803-877-1048
Recorded by: SAC

Greer, South Carolina

Q: Can Groce Laboratories, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: No, Groce Laboratories, Inc. could not treat any solids including soil and debris. Cheryl stated that Groce Laboratories, Inc. treats reactive materials, liquids to some extent, and that their system would be unable to treat chromium contamination even if it was in a liquid matrix.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 11:05 A.M.

To
Contact: Lori Crawford (Sales)
Company: Mill Services, Inc.
Telephone No.: 412-343-4900
Recorded by: SAC

Pittsburgh, Pennsylvania

Q: Can Mill Services, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Mill Service, Inc. uses a lime stabilization process in which solid wastes are converted into a slurry, and then the water is leached into a secondary treatment process. Mill Service, Inc. could treat the soil, no debris, by lime stabilization, although they would require initial sample testing because "they will not take any waste they could not render non-hazardous".

Lori informed me that a Module 1 application would need to be filled out by the generator and submitted to the Pennsylvania Department of Environmental Resources (PADER) explaining the exact nature of the waste. The PADER then has 6-8 weeks for an approval or disapproval. Lori then transferred me to Bill Kelly in the Laboratory Department.

Bill stated that Mill Services, Inc. primarily performs a lime stabilization process not a direct chrome reduction operation, although they could if needed, possibly perform chrome reduction on the soil only. Bill also informed me that Mill Service, Inc. had never performed a chrome reduction/chemical precipitation treatment process before. The material must be pumpable to be treated at the Pittsburgh facility. Mill Services could reduce approximately 200 tons per day of a soil slurry given that the waste would meet the companies treatability requirements.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 11:20 A.M.

To
Contact: Maria Guinto
Company: Solvent Services, Inc.
Telephone No.: 408-453-6046
Recorded by: SAC

San Jose, California

Q: Can Solvent Services, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: After speaking with the Environmental Manager, Maria stated that Solvent Services, Inc. does not treat soils and/or debris because their system is not set-up to treat any solids, although they are able to treat liquid wastewaters by chrome reduction.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 12:05 P.M.

To
Contact: Nicky Blank (Sales Manager)
Company: Standard Industries
Telephone No.: 513-623-3131
Recorded by: SAC

San Antonio, Texas

Q: Can Standard Industries treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Standard Industries is a wastewater treatment facility and is not set-up to treat solids. Nicky stated that Standard Industries does not treat for chrome per say but is more of a heavy metal wastewater treatment plant.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 27, 1989
Time: 12:45 P.M.

To
Contact: Jim Chappell (Sales Manager)
Company: Tricil Environmental Response, Inc.
Telephone No.: 616-733-1444
Recorded by: SAC

Muskegan, Michigan
Dayton, Ohio (Home Office)

Q: Can Tricil Environmental Response, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Tricil Environmental Response, Inc. can not treat any solids at any of their facilities by chromium reduction or any other treatment means. Tricil Environmental Response, Inc. strictly deals with liquid wastes, although they can in some circumstances treat sludges but they must be pumpable.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 2:45 P.M.

To
Contact: Stephen Berns (Security Guard)
Company: Roll Coater
Telephone No.: 317-462-7761
Recorded by: SAC

Greenfield, Indiana

Q: Can Roll Coater treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: The plant is shut down until January 2, 1990. Roll Coater unwinds rolled steel or aluminum wire, paints the wire, rewinds the wire, then ships it out. Stephen informed me that they do have an onsite wastewater treatment facility in which they treat their own waste stream but as far as he knew they do not handle any outside wastes. Stephen also gave me the number of another Roll Coater facility in Kingsbury, Indiana (219-393-3561). I called the Kingsbury facility which is also shut down until January 2, 1990, but the security guard onsite told me that this facility also has an onsite wastewater treatment facility for their own painting operation which does not treat outside wastes.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

BVWST Project #: 04190
Date: December 28, 1989
Time: 2:55 P.M.

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

To
Contact: Susanne Veaudry (Sales)
Company: IT Corporation Vine Hill
Telephone No.: 408-943-1540
Recorded by: SAC

San Jose, California

Q: Can IT Corporation treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: No, the IT Corporation could not treat soil and debris by chrome reduction but at one time they disposed of contaminated wastes at the Vine Hill facility. Susanne told me that the Vine Hill facility was currently undergoing closure; Vine Hill was a laboratory and disposal site. The laboratory is now defunct and the disposal site is closed. Susanne asked me to speak with Peter Hendrix at another California facility incase any other IT Corporation facility could handle soil and debris.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 3:00 P.M.

To
Contact: Kelly Price (Sales Manager)
Company: Chemical Processors, Inc.
Telephone No.: 206-838-4774
Recorded by: SAC

Tacoma, Washington

Q: Can Chemical Processors, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Chemical Processors, Inc. would be available to treat aqueous wastes by chrome reduction but the waste would need to pumpable in order to be treated. The Tacoma office strictly treats aqueous waste streams, but Kelly asked me to talk with the corporate office in Seattle, Washington.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 3:10 P.M.

To
Contact: Peter Hendrix (Sales)
Company: IT Corporation
Telephone No.: 415-372-9100
Recorded by: SAC

San Jose, California

Q: Can IT Corporation treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Peter wanted me to speak with a representative from the Pittsburgh, Pennsylvania office, because he believed they may be able to treat soil and debris and also because that office dealt with clients on the east coast. Peter told me he would call the Pittsburgh office and speak with a representative who would then call me back.

After I did not receive a return call from a representative from the Pittsburgh office 11:15 A.M. 12-29-89, I phoned Peter and asked for the Pittsburgh office phone number 1-800-444-9586.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 3:25 P.M.

To
Contact: Hal Williams (Sales Manager)
Company: Chemical Processors, Inc.
Telephone No.: 206-223-0500
Recorded by: SAC

Seattle, Washington

Q: Can Chemical Processors, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Hal stated that Chemical Processors, Inc. would be able to "stabilize" soil and debris and he thought that they possibly could perform chrome reduction on soil and debris. Hal told me he would "check with the other offices" then call me back.

10:35 A.M., 12-29-89 Left a message for Hal to call (he was in the office but the secretary was unable to locate him).

3:50 P.M., 12-29-89 Left a message for Hal to call.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

BVWST Project #: 04190
Date: December 28, 1989
Time: 3:40 P.M.

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

To
Contact: Roger Fuchs (Wastewater Operations)
Company: CID Landfill
Telephone No.: 312-646-3099
Recorded by: SAC

Oakbrook, Illinois

Q: Can the CID Landfill treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: The CID landfill is a wastewater treatment facility which at one time treated pickling liquors which contained chromium but has not treated any solids via chrome reduction. The CID Landfill is operated by the Waste Management of North America Company. Roger suggested I speak with Jessy Conner (708-841-8360) who is with Waste Management's sister company, Chem-Waste Management, in Riverdale, Illinois about to soil treatment by chemical processes.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 3:55 P.M.

To
Contact: Wanda Chapman (Sales Manager)
Company: Tricil Environmental Response, Inc.
Telephone No.: 615-833-2059
Recorded by: SAC

Antioch, Tennessee
Dayton, Ohio (Home Office)

Q: Can Tricil Environmental Response, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: No, Tricil Environmental Response, Inc. is strictly a wastewater treatment facility. The waste must be pumpable in order to be treated by chrome reduction/chemical precipitation at any of the Tricil facilities. Wanda also stated that there would be some limitations as to the chromium concentration and they would need to first treat a sample of the waste stream to determine if Tricil Environmental Response, Inc. would be able to meet the necessary legal concentration limits prior to an agreement to treat.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

BVWST Project #: 04190
Date: December 28, 1989
Time: 4:10 P.M.

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

To
Contact: Harry Alsentzer (Chemical Engineer)
Company: Waste Conversion, Inc.
Telephone No.: 609-384-8000
Recorded by: SAC

New Jersey Sales Office
Colmar, Pennsylvania (Home Office)

Q: Can Waste Conversion, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Waste Conversion, Inc. has a wastewater facility capable of soil washing in which the wastewater would then be treated by chromium reduction. The available capacity after screening would be approximately 50 tons per day and they could work 7 days a week if necessary.

Waste Conversion, Inc. is not set-up at present to treat bulk debris via chrome reduction but they "could build anything". Harry informed me that the building debris would first need to be washed or decontaminated, and then the wastewater would be treated by chrome reduction/chemical precipitation processes. At first, Harry stated that the debris would need to be limited to 2" diameter pieces to be suitable for future disposal by fixation or stabilization, but then Harry stated that Waste Conversion, Inc. "could build large baths and dip the debris into the baths and the baths could be as large as we wanted". Harry told me that there would be no limitations as to chromium concentration, and this plant could probably treat 50-100 tons per day of building debris.

Harry did make it clear that they had never done anything quite like this in the past, that at this time no planning has been done to build such a facility, and that he had no basis for his assertion other than faith in his companies ability to perform.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 28, 1989
Time: 4:20 P.M.

To
Contact: Mike Seng (Sales)
Company: Cyano Kem
Telephone No.: 313-933-1850
Recorded by: SAC

Detroit, Michigan

Q: Can Cyano Kem treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: At present Cyano Kem will not accept any K062 wastes because their system is unable to treat to the 0.094 ppm chromium level specified. They primarily treat plating waste streams by chemical precipitation means which does not contain chromium; after treatment the solution is released to the city sewer system. If the waste is strictly D007, Cyano Kem may be interested in treating debris only, no soils, provided the treatment level for third third chromium waste is not 0.094 ppm.

When asked to speculate about the available capacity (provided a treatment level of 0.094 ppm for chromium is not the case), Mike responded that Cyano Kem would be able to treat 2 roll off boxes per week given that each roll off box contains approximately 14 tons. Building material would be restricted to 3' by 3' pieces and a maximum pipe length of 3' due to landfill restrictions. Cyano Kem would decontaminate each piece of debris and then treat the wastewater via chrome reduction.

Mike pointed out again that if the treatment level proposed (0.094 ppm) for chromium were to be enacted, Cyano Kem would need to update their current facility "and to be perfectly honest I (Mike) don't believe they (Cyano Kem) are willing to invest that kind of money to update".

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 29, 1989
Time: 9:30 A.M.

To
Contact: Jeff Kubisak
Company: Rhinchem Company
Telephone No.: 602-233-2000
Recorded by: SAC

Phoenix, Arizona

Q: Can Rhinchem Company treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Rhinchem Company does not do any treatment at all; they are a removal and transportation organization. Their primary function is as a remediation/clean-up/hazardous waste disposal contractor. Rhinchem Company would be available to transport soil and debris to a secured landfill if necessary.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 29, 1989
Time: 10:05 A.M.

To
Contact: Steve Baucher (Operations Manager)
Company: Tricil Environmental Response, Inc.
Telephone No.: 614-876-1168
Recorded by: SAC

Hilliard, Ohio
Dayton, Ohio (Home Office)

Q: Can Tricil Environmental Response, Inc. treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Tricil Environmental Response, Inc. is strictly a wastewater treatment facility. Steve stated that Tricil will handle non-hazardous solids but wi not treat hazardous solids. Steve transferred me to Dave Johnson who ag stated that Tricil Environmental Response, Inc. would not handle any hazardous solids. If the waste was in a liquid form they would be able to treat D007 wastes by chrome reduction after first treating a sample, but once it is in a solid or cake form they will not handle the waste.

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

BVWST Project #: 04190
Date: December 29, 1989
Time: 11:20 A.M.

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

To
Contact: Larry Haser (Engineering Sales)
Company: IT Corporation
Telephone No.: 800-444-9586
Recorded by: SAC

Pittsburgh, Pennsylvania

Q: Can IT Corporation treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Larry was unsure if the IT Corporation would be able to treat soil and debris by chrome reduction. Larry said he mainly dealt with groundwater remediation, surface impoundments, and lagoons. Larry then transferred me to Bob Holden in sales.

Bob informed me that the IT Corporation was not set-up at present to treat soil and debris by chrome reduction or chemical precipitation and that a lot of initial testing would need to be done before a system could be developed. Bob stated that the IT Corporation has treated wastewaters by chrome reduction and chemical precipitation. Bob informed me that the IT Corporation would be willing to "get in on the development end" of such a process but that a chrome reduction process capable of treating soil and debris "does not exist today and I (Bob) would be very skeptical if someone told you they had one or that they could".

Bob also informed me that the IT Corporation had performed "experimental soil washing techniques on the New Jersey soils" but it had not proved very successful and it was "not an ideal process".

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat
Chromium Contaminated Soil and
Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: December 29, 1989
Time: 3:45 P.M.

To
Contact: Jessy Conner (Sales)
Company: Chem-Waste Management
Telephone No.: 708-841-8360
Recorded by: SAC

Riverdale, Illinois

Q: Can Chem-Waste Management treat chromium contaminated soil and debris by the chrome reduction/chemical precipitation treatment process?

A: Jessy stated that as far as he was aware "no debris has had any chromium precipitation or any other chemical precipitation process performed on it because normally debris would be decontaminated and then landfilled at an approved TSD facility". Jessy also informed me that debris "unless a listed waste" would just be transported to a TSD landfill facility without any treatment prior to disposal. The debris would first be screened from the smaller particles, the smaller particles would then be stabilized, and the larger pieces buried "onsite or taken to a landfill".

Jessy was "pretty sure" that Chem-Waste Management, Inc. had performed a chromium stabilization process on soils mixed with debris and "certain" they had performed various stabilization processes on soils. I asked Jessy for his definition of a stabilization process and he replied "chemical treatment and solidification, these processes are lumped together as the same in his definition".

Jessy explained that depending on the form and type of material, the stabilization process would normally proceed in 20 ton batches. Depending on the mixing, crushing, and screening one could expect 1-10 batches per hour. Jessy speculated that with the bulk debris (brick, concrete, steel, wood, and transite) I mentioned, probably 1-2 batches per hour could be processed and there would be no limitation as to the chromium concentration, although a maximum size would most likely be 3' by 3' pieces. Normally, for building debris such as steel, the surface contamination would be washed from the material and then the wastewater would be treated accordingly.

After speaking with Jessy, I was still uncertain if Chem-Waste Management, Inc. had actually performed chromium reduction on soil and debris or rather just stabilization, such as lime stabilization with subsequent solidification. Jessy did, however, make it clear that Chem-Waste Management, Inc. had performed a variety of stabilization processes on soils mixed with debris, but normally bulk building debris would be decontaminated, the wastewater treated, and then disposed of in an approved TSD facility, and also that Chem-Waste Management,

Docket Number: LD12-00096 (continued)

Commenter: Allied-Signal

Comment: (continued)

B&V WASTE SCIENCE AND TECHNOLOGY CORP.
Philadelphia Office

TELEPHONE MEMORANDUM

Allied-Signal
Baltimore Works
Re: Available Capacity to Treat Chromium Contaminated Soil and Debris by Chrome Reduction/Chemical Precipitation

BVWST Project #: 04190
Date: January 2, 1990
Time: 4:10 P.M.

To
Contact: Mike Seng (Sales)
Company: Cyano Kem
Telephone No.: 313-353-5880
Recorded by: SAC

Detroit, Michigan

Q: Could Cyano Kem actually decontaminate building debris to a treatment level of 0.094 ppm for chromium?

A: Mike thought it best if I posed this question to Samford Washington in the Sales Department and transferred my call to him. Samford replied that "he honestly did not know" if their decontamination process could meet the 0.094 ppm treatment goal, but Cyano Kem has decontaminated chromium contaminated building debris (concrete, brick, steel, wood, and transite) to the F006 treatment standard of 5.2 ppm. Samford explained that since the required treatment standard is not 0.094 ppm that Cyano Kem has not tried to meet that treatment standard, and that it "possibly could be reached but that the cost would be enormous".

Docket Number: LD12-00133

Commenter: PPG Industries, Inc.

Comment:

- D007 Chrome - PPG has repeatedly distinguished between Chrome III and Chrome VI from the standpoint of toxicity. (See, 40 CFR §261.4 (b)(6).) Yet the Agency has proposed a BDAT standard of .094 mg/l for total chromium. This standard is well below the EP Toxicity characteristic level.

  Chromium, almost wholly in the trivalent form (chrome III) is a significant constituent of the earth's crustal material averaging about 50 ppm and ranging up to 3.5 g/kg. If EPA's proposed standard is finalized, it is likely that many virgin soils and natural materials would have difficulty complying with it.

  Additionally, periodic repairs of glass melting furnaces can generate used refactory bricks which can be hazardous wastes due to chromium. EPA's proposed BDAT using chromium reduction followed by lime and sulfide precipitation and dewatering is not feasible for large refractory bricks. Currently, some of these refractories are being processed by grinding and recycling into new refractories. However, PPG is not aware of any commercially viable method for treating used chromium refractories which cannot be recycled. A two-year national variance is needed to identify alternative treatment methods for these materials.

Docket Number: LD12-00195

Commenter: Owens-Corning Fiberglass Corporation

Comment:

B. At Present There Is No Treatment Capacity Available To Treat OCF's D007 Nonwastewaters To 5.2 mg\l.

Although OCF supports the adoption of the 5.2 mg\l treatment standard for D007 nonwastewaters, it also asks the Agency to grant a national capacity variance for the subcategory of D007 nonwastewaters consisting of furnace refractory brick and glass slag.

In the D007 background document, U.S. EPA recognizes that the refractory industry uses chromium products and will be affected by the proposed D007 treatment standard. See D007 Background Document at 2-1. Furthermore, the Agency recognizes that glass manufacturers consume chromium refractory. See D007 Background Document at 2-8. Yet, despite this recognition, the proposed BDAT standard for D007 nonwastewaters fails to take into account the differences between the characteristics of refractory brick and glass slag from glass furnaces and the wastes upon which the proposed D007 BDAT treatment standard is based.

OCF has attempted to find refractory materials that do not contain chrome oxide. Unfortunately, the replacement materials tested do not maintain resistance to thermal degradation. OCF also has attempted to find a facility that will accept all of its the chromium-contaminated refractory brick for recycling. To this date, only one individual recycler has been identified that can handle all types of chromium-contaminated refractory that is generated by OCF. Finally, OCF has attempted to find a facility that will treat chromium-contaminated refractory brick and glass slag. To this date, no facilities have been identified that are presently capable of treating this material. Treatment facilities would require additional equipment to break down refractory brick and glass slag to treatable sizes.

Docket Number: LD12-L0032 16-66

Commenter: Owens Corning Fiberglas (OCF) Corporation

Comment:

Please note, however, that even the D007 treatment data submitted by these three waste treatment companies do not represent the universe of D007 nonwastewaters. For example, in its comments, Tricil states that, although it accepts only liquid wastes, it still must reject some chrome streams as untreatable due to the presence of complexing agents and the concentration of chrome. See Tricil Comments at ¶ 6. The Chemfix data is based on treatment of K048 incinerator residue. Finally, the nonlisted wastes included in the data submitted by Waste Management are incinerator residues, evaporator still bottoms, non-F006 metal finishing waste, paint booth waste, lead smelter residues, jet fuel treating clay and contaminated soils. See Waste Management Comments at 94.

Indeed, the data submitted by Waste Management supports the point made by OCF in its comments on the Third Third Land Ban proposed rule: the treatability group of D007 nonwastewaters includes wastes which cannot be treated by stabilization, the technology identified as BDAT for D007 nonwastewaters. For example, Attachment G of the Waste Management comments includes two D007 wastes that could not be treated because Waste Management could not break up the pieces or grind them up sufficiently to render them suitable for stabilization. This is also true of OCF's D007 nonwastewaters, see OCF Comments at Attachment A, and many items of debris, including D007 debris, that are sent to Waste Management for disposal, see Waste Management Comments at Attachment A (waste profile V94942 appears to be very similar to D007 nonwastewaters generated by OCF).

The Agency should use this data to create a subcategory of D007 nonwastewaters which cannot be treated with stabilization technologies. This subcategory could be defined as D007 nonwastewaters containing greater than 10% by volume solids exceeding 9.5mm sieve size. Cf. 54 Fed. Reg. at 48,489. The Agency should then establish a two-year national capacity variance for this subcategory. Alternatively, the Agency could expand the proposed two-year national capacity variance for contaminated soil and debris for which the proposed treatment standards are based on combustion, wet-air oxidation, virtrification, or mercury retorting, see id., to include soil and debris for which the proposed treatment standards are based on stabilization. A variance is necessary because many D007 nonwastewaters, including that which can be characterized as debris, cannot be stabilized. See Waste Management Comments at 43. Furthermore, even though some D007 nonwastewaters can be treated with high temperature metals recovery, this treatment also requires size reduction which is not available at a sufficient number of facilities to be considered commercially available to any generator.

Docket Number: LD12-L0034 16-67 Soil & Debris

Commenter: Hazardous Waste Treatment Council (HWTC)

Comment:

We concur with EPA's assessment articulated in the SARA National Contingency Plan, that BDAT as currently formulated, is inappropriate for application to soil and debris. As an interim policy we agree with the Agency's decision to implement for SARA remediation the soil and debris treatability regime incorporated in the Superfund LDR Guide #6A (OSWER Directive, July, 1989, 9347.3-06FS), and that treated residues comply with these requirements may be replaced so long as they also satisfy the functional equivalent of the delisting criteria (i.e., without the administrative rulemaking procedure). This policy should also apply to RCRA corrective action.

We concur with the problems of debris waste expressed by Allied Signal (Docket No. 00096) regarding the closure of the Baltimore, Maryland chrome chemical works and treatment of D007 debris. We support Option C on page 2 of these comments, and do not agree that a national capacity variance is warranted, or site specific variances as suggested in options A, B and D. A technology-based standard could be promulgated as part of the approach suggested below. Extensive discussion on the issue was provided in our comments on January 8, 1990. These comments are reprinted at Appendix C.

Commenter: Hazardous Waste Treatment Council

Comment:

E. D007 Wastes

In comments submitted February 20, 1990, the HWTC agreed with the debris treatability issues raised by glass manufacturers regarding chromium refractory brick (comments of Owens Corning Fiberglass, LD12-00195 and Glass Packaging Institute, LD12-00078). We also concur with the concerns expressed by Allied-Signal regarding debris waste treatment at the Baltimore, Maryland Chrome Chemical Works (LD12- 00096). Again, however, as discussed in our lead comments in section F below, the issue here is not treatment capacity but rather treatment standards. The availability of treatment capacity would not even be an issue if EPA promulgated alternate treatment standards for debris waste. In addition, more practical interpretations of the derived-from and contained-in rules would alleviate this problem (see HWTC comments of February 20, 1990, pages 20- 23). In any event, the relief requested can be obtained through treatability variances, and a capacity extension is not justified.

In general we find many of the capacity issues raised by commenters to be related to treatability issues, not capacity. For example, certain examples of problematic debris waste such as refractory waste are described as capacity issues when the promulgation of separate BDAT standards for all debris will solve the serious problem that exists currently with debris. This problem currently exists for debris derived from F006-F010 wastes for example. At the present time, EPA has provided for treatability variances for contaminated debris to establish BDAT in a case-by-case basis; a capacity extension is totally unwarranted.

16.3 Need for a Variance for Lead Treatment

Summary:

Six commenters (Hammond Lead Products (153), Secondary Lead Smelting Association, Inc. (161), RSR Corporation (162), Battery Council International (178), Electric Utilities (204), and Steel Structures Painting Council (SSPC) and American Road and Transportation Builders Association (ARTBA) (L0161)) stated that there was insufficient capacity to treat soil and debris contaminated with lead, and therefore requested that these wastes receive a variance.

Hammond Lead Products (153), Secondary Lead Smelting Association, Inc. (161), and RSR Corporation (162) stated that a national capacity variance for lead-contaminated soil and debris should be granted in order to avoid any impediment to prompt CERCLA cleanups and voluntary cleanups until sufficient treatment capacity is available. Hammond Lead Products also stated that there was insufficient treatment capacity to treat refractory bricks contaminated with lead.

The Battery Council International stated that the capacity analysis does not include lead-contaminated soil and debris and that there is insufficient capacity to treat these wastes.

Electric Utilities (204) specifically stated that D008 wastes with PCBs are not necessarily amenable to thermal recovery, and should have the same two-year capacity variance as other soils.

SSPC and ARTBA requested a variance for spent lead-containing abrasives. Abrasive blast media may include silica sand, smelter slags, steel shot or grit, and other media.

Response:

EPA has taken into account the amount of soil and debris contaminated with lead in the capacity analysis. EPA is no longer dividing D008 into high-lead and low-lead categories, and is allowing either stabilization or thermal recovery as treatment technologies. EPA data indicate that there is sufficient stabilization capacity to treat these soil and some debris wastes. Therefore, with one exception, EPA is not granting wastes contaminated with lead a national capacity variance. If the commenters believe that the soil and debris cannot be treated with the technologies that EPA has selected (which may be the case with D008 mixed with PCBs), the commenter may seek a treatability variance.

However, EPA has determined that some debris wastes may not be amenable to the standard stabilization treatments. Therefore, EPA has decided to establish a separate treatability group for debris that would have to be crushed or otherwise reduced in size prior to stabilization in order to comply with the D004 through D011 treatment standards. EPA is identifying this group of D004 through D011 wastes as "inorganic solids debris." Wastes in this treatability group are defined as follows: nonfriable inorganic solids that are incapable of passing through a 9.5 mm standard sieve that require crushing, grinding, or cutting in mechanical sizing equipment prior to stabilization, limited to the following inorganic or metal materials: (1) metal slags (either dross or scoria); (2) glassified slag; (3) glass; (4) concrete (excluding cementitious or pozzolanic stabilized hazardous wastes); (5) masonry and refractory bricks; (6) metal cans, containers, drums, or tanks; (7) metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment; and (8) "scrap metal" according to 40 CFR 261.1(c)(6).

EPA believes that some of the lead-contaminated debris referred to by the commenters are part of this treatability group. EPA has determined that there is inadequate capacity to treat inorganic solids debris. Therefore, EPA is granting a national capacity variance for inorganic solids debris, which include the lead-contaminated debris that are in this treatability group.

Comment:

The comments relevant to this issue are presented in the following order.

- Hammond Lead Products (153);
- Secondary Lead Smelting Association, Inc. (161);

- RSR Corporation (162);
- Battery Council International (178);
- Electric Utilities (204); and
- Steel Structures Painting Council (SSPC) and American Road and Transportation Builders Association (ARTBA) (L0161).

Docket Number: LD12-00153

Soil & Debris

Commenter: Hammond Lead Products, Inc.

Comment: 351x

The characteristic level is the more appropriate treatment standard because this level is the one used to determine whether a waste is hazardous. Unlike a listed hazardous waste, treating a characteristically hazardous waste to a level below the characteristic level would render that waste nonhazardous for regulatory purposes. Accordingly, EPA would be exceeding its authority under RCRA to regulate hazardous waste by setting a treatment standard for D008 waste below the characteristic level of 5.0 mg/l.

4

Furthermore, the proposed treatment standard of 0.51 mg/l is not appropriate for D008 waste. This is particularly true for wastes such as used refractory bricks from the furnaces at Hammond Lead. This treatment standard was developed by relying on treatment data for other waste codes from other industries. While these data may provide sufficient justification for the applicable treatment standards for these other waste codes and industries, they are not appropriate for establishing a BDAT for D008 wastes.

Although the existing treatment data for D008 wastes generally suggests that some D008 wastes can be treated to the characteristic level, it does not appear that adequate treatment capacity exists for these wastes. While no hazardous waste treatment facility has indicated that it can stabilize used refractory bricks to the proposed BDAT level, several hazardous waste treatment facilities have indicated that existing stabilization capacity is not sufficient to handle all D008 wastes. Accordingly, Hammond Lead requests that a nationwide variance be granted for nonwastewater forms of D008 wastes such as used refractory bricks, until sufficient capacity is available to treat such wastes to the characteristic level of 5.0 mg/l.

Docket Number: LD12-00153 (continued)

Commenter: Hammond Lead Products, Inc.

Comment: (continued)

B. Lead-Contaminated Soil and Debris

In its proposed land disposal restrictions, EPA has not specifically proposed a national capacity variance for soil and debris contaminated with lead. In a separate rulemaking, however, EPA has requested comments on whether land disposal restrictions should apply to response actions conducted pursuant to CERCLA. 54 Fed. Reg. 41566 (1989). Specifically, EPA indicated that the removal, treatment, and replacement of contaminated soil could be allowed without triggering the applicable land disposal restrictions because such activities "simply serve to improve the characteristics of disposed waste to insure long-term environmental protection" and would enable property owners "to design sensible, protective remedies that are tailored to fit site-specific conditions" without imposing additional regulatory burdens.

Notwithstanding this rulemaking, a national capacity variance for lead-contaminated soil and debris should be granted in order both to avoid any impediment to prompt and environmentally sound cleanups under CERCLA, and to encourage voluntary cleanups at contaminated sites. Without such a variance from the land disposal restrictions, property owners would be reluctant to conduct any cleanup voluntarily and to assume the additional expense of compliance with the applicable land disposal restrictions. Rather, property owners would be encouraged to wait until a cleanup order under CERCLA was issued. Furthermore, such a national capacity variance would be appropriate until sufficient capacity to treat the contaminated soil and debris to the proposed BDAT standards becomes available. Accordingly, a national capacity variance for lead-contaminated soil and debris is consistent with EPA's policy to encourage prompt cleanups under CERCLA, as well as voluntary cleanups, and should be granted for lead-contaminated soil and debris until sufficient capacity is available to meet the proposed BDATs for D008 waste.

Commenter: Secondary Lead Smelting Association, Inc. (SLSA)

Comment:

D. Lead-Contaminated Soil and Debris

In its proposed land disposal restrictions, EPA has not specifically proposed a national capacity variance for soil and debris contaminated with lead. In a separate rulemaking, however, EPA has requested comments on whether land disposal restrictions should apply to response actions conducted pursuant to CERCLA. 54 Fed. Reg. 41566 (1989). Specifically, EPA indicated that the removal, treatment, and replacement of contaminated soil could be allowed without triggering the applicable land disposal restrictions because such activities "simply serve to improve the characteristics of disposed waste to insure long-term environmental protection" and would enable property owners "to design sensible, protective remedies that are tailored to fit site-specific conditions" without imposing additional regulatory burdens.

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Docket Number: LD12-00162 (continued)

Commenter: RSR Corporation

415

2 **G. EPA Should Issue a National Capacity Variance For Lead-Contaminated Soil and Debris**

EPA has not proposed a national capacity variance for soil and debris contaminated with lead. As more fully discussed below, EPA should issue a national capacity variance for lead-contaminated soil and debris.

EPA has solicited comment in a separate rulemaking on whether land disposal restrictions should apply to response actions conducted under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). 54 Fed. Reg. 41566 (October 10, 1989). In that rulemaking, EPA has indicated that the

33 treatment and replacement of contaminated soil could be allowed without application of the land disposal restrictions.

Issuance of a national capacity variance for lead-contaminated soil and debris is consistent with the Agency's expressed intent underlying the CERCLA rulemaking noted above and would encourage prompt, voluntary cleanups at contaminated sites. In addition, a national capacity variance would be appropriate until sufficient capacity to treat contaminated soil and debris becomes available.

RSR thus urges EPA to issue a national capacity variance for lead-contaminated soil and debris until sufficient capacity is available to satisfy the proposed BDAT standard for D008 waste. Such a variance would facilitate voluntary cleanups and is consistent with EPA's policy to encourage cleanups under CERCLA.

12

2. EPA Should Clarify The National Capacity Variance For Soil And Debris With Respect To D008 Lead Bearing Wastes

As part of the November 22, 1989 notice, EPA proposed a national capacity variance "for soil and debris contaminated with some of the waste codes covered in today's notice." See 54 Fed. Reg. 48378. EPA further states, at 54 Fed. Reg. 48489, that regarding third-third wastes, the national capacity variance for soil and debris is applicable where the treatment standards "are based on combustion, wet-air oxidation, vitrification, or mercury retorting."

U.S. EPA
RCRA Docket
January 8, 1990
Page 13

13

On its face, this appears to exclude D008 nonwastewaters, where stabilization and thermal recovery were proposed as BDAT. As is adequately demonstrated in the comments of the SLSA, there is insufficient stabilization and thermal recovery capacity to treat the anticipated volume of third-third D008 nonwastewaters. This capacity analysis does not include lead contaminated soil and debris. Accordingly, EPA should clarify that the national capacity variance also applies to D008 contaminated soil and debris.

Docket Number: LD12-00204

Commenter: Electric Utilities

Comment:

The Electric Utilities are troubled by the limitations under EPA's proposed treatment standard for the D008 (lead containing waste) high lead subcategory. Specifically, the Agency is proposing that wastes in the high lead subcategory (i.e., those wastes containing greater than or equal to 2.5% lead), be subjected to a required treatment method of "thermal recovery as a method of treatment." See 54 Fed. Reg. at 48438-39. This treatment option, however, is impractical for certain lead wastestreams containing constituents that cannot be subjected to thermal recovery. One example is contaminated soil and debris containing PCBs and lead. Depending on the concentration of PCBs in the waste matrix, thermal recovery may

p. 16

be prohibited under regulations promulgated under the Toxic Substances Control Act restricting the combustion of PCB wastes. See 40 C.F.R. § 761.60.

p. 17

Accordingly, the Electric Utilities urge EPA to rethink its proposed treatment methods for the high lead subcategory to take into account waste mixtures that are not amendable to this treatment method. At a minimum, EPA should grant such wastes a two-year capacity variance as it has done for mixed wastes and other contaminated soils containing restricted wastes.

Docket Number: LD12-L0161 Soil & Debris

Commenter: Steel Structures Painting Council (SSPC) and American Road and Transportation Builders Association (ARTBA)

Comment:

The protective coatings industry generates large quantities of abrasive waste due to the need to remove and replace weathered and deteriorated coatings from existing structures. Because of the predominant use of lead-containing paints in the industry until the 1970s, a large proportion of the structures are coated with lead based paints. When the coatings must be replaced, typically the old paint is removed by blast cleaning and the lead-containing residue is combined with the abrasive blast media. The latter include silica sand, smelter slags, steel shot or grit and other media.

Concern about Availability of Treatment Capability

Thus, a major concern of the industry is the removal and disposal of lead-based paint. The SSPC has spearheaded efforts to educate the industry on the hazards of this operation, and on the need to properly contain and dispose of lead residues. Two national conferences were sponsored by SSPC in 1988 and 1989 on this subject, with a third scheduled for March 1990. In addition, SSPC and many of its members have been active in pursuing research, development, and evaluation of various techniques and procedures for containing, processing, recovering the material. Special committees have been established and the SSPC's *Journal of Protective Coatings & Linings* has provided a regular source of information to enable the members to protect the environment and meet the RCRA requirements. Examples of SSPC and industry activities are listed in the bibliography.

The SSPC and its members, however, are extremely concerned about the proposed regulation regarding disposal of lead. In particular, we question the availability of suitable methods for treatment of spent abrasives containing lead to meet the proposed level of 0.51 ppm.

In the proposed rule in November 22, 1989 *Federal Register*, it is stated that processes developed to treat electroplating sludge are capable of reducing lead levels from 24,500 to 0.51 ppm, based on TCLP. It is also stated that another (unspecified) technique could reduce the level from 1000 ppm to 0.18 ppm.

Our concern is that the above techniques have not been used for treating abrasive waste. Thus, there is great question about whether these would be successful for these types of materials. Even if these processes were determined to be suitable, it is simply not possible for the equipment and facilities to be constructed and put into effect within the proposed time (i.e., by May 8, 1990).

Estimate of Quantity of Waste Generated

Abrasive paint wastes are generated from tens of thousands of separate blast cleaning projects each year, performed by an equal number of contractors. The number of plants and facilities requiring such services is also in the thousands. Many of the contractors would be classified as small generators of hazardous waste. Thus, scores or hundreds of processing facilities would need to be erected to accomplish the processing of the abrasive wastes generated. From previous studies of the test methods, we have established the high likelihood that any residue from a structure coated with a lead-based paint will be classified as hazardous waste material under the proposed TCLP regulation. Some of the evidence for this statement is contained in the Bibliography.

Docket Number: LD12-L0161 (continued)

Commenter: Steel Structures Painting Council (SSPC) and American Road and Transportation Builders Association (ARTBA)

Comment: (continued)

Regulations Considered Unfeasible

Some specific data regarding the number of structures affected can be derived from analysis of one segment of the industry, the highway bridge painting market. Under recent surveys performed by SSPC, we have determined that 75-80 percent of the 6500 bridges painted within the last four years contained lead-based paints. The estimated amount of abrasive debris generated from the painting of these bridges is estimated at 3 to 5 million gallons. per year. This amount would be increased by severalfold when taking into account the various other industries affected which have large numbers of structures coated with a lead-based paint, including the water tank industry, petroleum refining industry, military facilities, and others.

Based on the above, we believe that before the referenced processing techniques can be considered appropriate, it must be demonstrated that they can be made available on a wide basis. It must be demonstrated that this technology can be successfully applied to the enormous volume and diversity of the abrasives generated from removingpaint containing lead from structures.

In summary, we feel that the processes referenced by EPA do not constitute the best demonstrated available technology (BDAT)with respect to the processing of spent lead containing abrasives. While recognizing the Congressional mandate under which EPA is operating, we believe that the overall requirement as presented in the *Federal Register* of 11/22/89 is unfeasible and unreasonable.

Request for Variance

The SSPC hereby requests that EPA grant a variance to the protective coatings industry for the disposal of lead-containing abrasives. The variance is based on two provisions cited in the *Federal Register* (page 48376 of *Federal Register*, Vol. 54, No. 224, 11/22/89) as follows:

1. National Capacity Variance

Based on the enormous volume of waste generated from blast cleaning (5 to 20 million gallons per year or 30,000 too 120,000 tons per year), SSPC claims that there is insufficient alternative protective treatment, recovery, and disposal capacity for the waste (RCRA Section 30004 (H 2)).

2. Variance from the Treatment Standards

The SSPC contends that the waste generated by abrasive blast cleaning is substantially different from electroplating sludge waste, on which the proposed treatment standards were based. The abrasive waste is a solid aggregate or steel grit type waste, which requires special techniques for containing, collecting, and conveying to potential processing facilities. In addition, the great number and diversity of the waste generation sites results in the need for an entirely different type of containment and processing facility. Moreover, the EPA has not demonstrated that the processing methodology utilized for the electroplating waste would be capable of handling the huge volume of waste debris generated from abrasive blast cleaning operations.

We hereby request a variance from the requirements of this proposed regulation for a 2-year period, until May 8, 1992. This delay would allow the protective coatings and related industries to develop, evaluate, and implement effective techniques for minimizing the amount of waste generated and for processing the hazardous waste to allowable levels.

16.4 Need for a Variance for All Soil and Debris

Summary:

Three commenters (E.I. DuPont De Nemours & Co. (189), Browning-Ferris Industries (BFI) (214), and Chemical Manufacturers Association (L0007)) stated that all soil and debris, not just soil and debris needing specific treatment technologies, should receive a national capacity variance. E.I. DuPont De Nemours & Co. and Chemical Manufacturers Association are concerned that Third Third wastes receiving a variance are mixed with First Third wastes whose variance will expire this year. These prohibited wastes must then be treated by a technology that continues to be unavailable. Because capacity may still not exist for these wastes, the commenters stated that all soil and debris wastes should receive a two-year national capacity variance. Browning-Ferris Industries (BFI) (214) expressed concern that site-specific variances be used for soil and debris rather than granting all soil and debris a national capacity variance.

Response:

EPA has determined that there is insufficient capacity for certain technologies to treat contaminated soil and debris (i.e., combustion, mercury retorting, and vitrification). However, EPA is not granting a national capacity variance to those soil and debris that can be treated by commercially available technologies, such as stabilization. EPA has the statutory authority to grant a national capacity variance for up to two years for certain wastes. This variance cannot be extended. If the commenter can prove that adequate capacity still does not exist to treat the Third Third wastes mixed with First Third wastes, then the commenters may apply for a case-by-case extension or a treatability variance. If the commenter believes that the waste differs significantly from the waste used to set the LDR treatment standard, such that the treatment standard cannot be met or the BDAT is inappropriate, the commenter may want to consider applying for a treatability variance.

Comment:

The comments relevant to this issue are presented in the following order:

- E.I. DuPont De Nemours & Co. (189);
- Browning-Ferris Industries (BFI) (214); and
- Chemical Manufacturers Association (L0007).

Docket Number: LD12-00189

Commenter: E.I. DuPont De Nemours & Company

Comment:

Du Pont supports EPA's "long-term" objective of promulgating separate BDAT standards for certain "treatability groups" for contaminated soil and debris. We also support the Agency's recognition that national capacity does not exist for stringent treatment of contaminated soil and debris. We also support EPA's decision to grant two-year national variances for such soils and debris contaminated with materials addressed in the "Third-Third" rule. Du Pont also agrees that the date from which the variance period should begin is the date on which EPA actually acts on the given wastes not on the date it was "supposed" to act based on its own schedule. To do otherwise would place many owners/operators of areas with contaminated soils and debris in a particularly inequitable position, as the Agency has adequately stated. 4

Du Pont is also concerned with EPA's proposal that if soil and debris are contaminated with "Third-Third" wastes for which, for example, combustion is the BDAT technology, as well as with other materials for which a national variance has expired (e.g. "certain types of prohibited solvent wastes"), that the soil and debris would have to be treated to meet the treatment standard for that prohibited waste (or wastes). While this may be an interpretation that maintains the "purity" of EPA's legal analysis, once again, such an approach by the Agency makes no practical sense. Many of the materials in the "Third-Third", for which EPA has already decided there is insufficient capacity if such materials have contaminated soils and debris, are very similar to those materials that EPA has already addressed, e.g. spent solvent wastes, "First-Third" wastes. For the Agency, on the one hand, to indicate that insufficient capacity exists to handle these types of materials, and then to require, just because they have "run out of time" based on the statutory mandates, that these materials "magically" be incinerated or combusted is an unreasonable approach for EPA to propose. Either capacity exists for similarly contaminated soil and debris or it does not. If it does not, as the Agency has concluded, then all contaminated soils and debris containing such materials should be granted the two-year national variance. To do otherwise will require owners/operators to combust contaminated soil and debris in facilities that don't exist or to take up valuable incinerator space from more concentrated materials that truly should be treated by incineration, e.g. concentrated organic wastes. This is another indication of the need for prompt action by the Agency to resolve the dilemna of "blindly" applying the LDR BDAT standards to contaminated soil and debris. 29

Docket Number: LD12-00214

Commenter: Browning-Ferris Industries (BFI)

Comment:

In addition to rescheduling all these wastes, EPA should grant a two-year national capacity variance for all soil and debris. The lack of sound treatment standards for solid and debris is an immediate problem and is adversely affecting (and delaying) closure activities across the country. In this rulemaking, EPA is proposing to grant a two-year national capacity variance to all soil and debris for which the treatment standards are being proposed as part of the third third rulemaking and where those treatment standards are based on combustion, wet-air oxidation, vitrification, or mercury retorting. We agree with EPA that it has the authority to grant a two-year national capacity variance effective beginning on May 8, 1990, to a first or second third waste, without rescheduling that waste to the third third, where the treatment standard for that first or second third waste is first promulgated in the third third rulemaking. 54 Fed.Reg. 48489. However, the need for a national capacity variance running from May 8, 1990, is not restricted to the soils and debris contaminated with wastes for which the treatment standard is first being promulgated in the third third rulemaking. Because of the unique treatability issues concerning soil and debris, the date of the promulgation of the treatment standards for the contaminating wastes is irrelevant to the need -- and justification for -- a national capacity variance.

Docket Number: LD12-00214 (continued)

Commenter: Browning-Ferris Industries (BFI)

Comment: (continued)

EPA's suggestion that generators of soil and debris waste apply for site-specific variances from the treatment standards until the time that EPA has organized contaminated soil and debris into treatability groups is an inadequate response. Id. at 48469. As EPA has recognized, the treatability variance is much like the fundamentally different variance under the Clean Water Act, and as has been the experience with FDF variances, availability in theory does not equate to availability in practice. FDF variances typically remain pending for years, with action sometimes permanently delayed. Unless and until EPA demonstrates the ability to act on such variance applications in a timely and fair manner, the "availability" of such a variance cannot be used to excuse the failure to take action now on a national capacity variance.

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Docket Number: LD12-L007 16-85 Soil & Debris

Commenter: Chemical Manufacturers Association

Comment:

C. CMA Supports the Proposed National Capacity Variance for Contaminated Soil and Debris and Encourages EPA to Extend that Variance to All Contaminated Soil and Debris.

CMA supports EPA's proposal to grant two-year national capacity variances for soils and debris contaminated with Third Third wastes for which wet-air oxidation, combustion, vitrification, or mercury retorting are identified as BDA. We also agree that the date from which the variance period should begin is the date on which EPA actually establishes BDAT standards for the particular wastes, not the date on which it was "supposed" to act based on its original schedule. To do otherwise would place many owner/operators of

areas with contaminated solid and debris in a particularly inequitable position, as EPA has recognized.

Docket Number: LD12-L007 (continued)

Commenter: Chemical Manufacturers Association

Comment: (continued)

We are concerned, however, that the national capacity variances do not go far enough. In particular, we object to EPA's suggestion that soil and debris contaminated with wastes for which a national capacity variance has expired (e.g., "certain types of prohibited solvent wastes") must be treated to meet the treatment standard for the prohibited waste (or wastes). 54 Fed. Reg. at 48,489/3. Many of the materials in the Third Third proposal for which EPA has decided there is insufficient treatment capacity are very similar to materials such as spent solvents for which the national capacity variance is about to expire. If there is insufficient capacity to handle soil and debris contaminated with such Third Third wastes, then there is also inadequate capacity to handle soil and debris contaminated by wastes such as spent solvents. Either capacity exists to treat similarly contaminated soil and debris or it does not. If it does not, as the Agency has concluded, then all contaminated soils and debris containing such materials should be granted the two-year national capacity variance. To do otherwise will require owners/operators to combust contaminated soil and debris in facilities that do not exist or to consume valuable incinerator space that should be reserved for more concentrated materials that truly require treatment by incineration, e.g., concentrated organic wastes. This problem clearly highlights the need for prompt action by the Agency to resolve the dilemma that arises from blindly applying BDAT standards to contaminated soil and debris.

16.5 Request for an Exemption for Vanadium-Contaminated Soil and Debris;

Summary:

The Strategic Minerals Corporation (STRATCOR) (271) stated that in contrast to Section III.B.1.c.(4)(i) of the preamble to the proposed rule, which states that "no commercial vanadium recovery capacity has been identified," STRATCOR has operated a vanadium recovery facility for over 20 years. STRATCOR expressed concern that their recycling efforts would be precluded under the proposed language, because contaminated soils classified as solid or hazardous wastes could not be recycled at STRATCOR's facility, which is not a RCRA treatment, storage, or disposal facility. This outcome, STRATCOR states, alters the RCRA intent to permit legitimate recycling. STRATCOR proposed that EPA grant an exemption for soils contaminated from spills of vanadium (P119 and P120) products, as well as to the 90-day recycling provision.

Response:

In the proposed rule, EPA proposed thermal recovery or stabilization as methods of treatment for vadium nonwastewaters. EPA acknowledges that the commenter has vanadium recovery capacity. However, for the final rule, EPA is promulgating stabilization as the method of treatment. EPA has determined that adequate stabilization capacity exists for treating soil and debris contaminated with P119 and P120 wastes. Therefore, EPA is not granting vanadium wastes a national capacity variance.

Comment:

The comment relevant to this issue is presented as follows:

- Strategic Minerals Corporation (STRATCOR) (271).

Docket Number: LD12-00271

Commenter: Strategic Minerals Corporation (STRATCOR)

Comment:

1. Commercial Vanadium Recovery Capacity

Section III.A.1.h.(5) [48389] states that "EPA does not intend to preclude the legitimate recycling of any of these wastes... however... soil and other residues from spilling these commercial chemicals would ordinarily not be recyclable." Further, Section III.F.(48493) indicates that the EPA wants to amend the rules to classify 261.33(d) contaminated soils resulting from a spill to be solid waste, but recognizes there may be exceptions. Finally, Section III.B.1.c.(4)(1) [4848] states "...no commercial vanadium recovery capacity has been identified..."

We would like to correct this miscomprehension that no commercial recovery capacity exists for vanadium (P119 or P120) contaminated soils. The U.S. Vanadium Corporation facility at Hot Springs, Arkansas has the capacity to recover vanadium from vanadium bearing soils by salt roasting and leaching. This capacity has been utilized successfully for more than 20 years at this location. We have recovered vanadium from ore as well as other sources at rates up to 50 tons per hour. We would not object to being considered as a contractor for recycling vanadium originating from such spills on a case-by-case basis. To our knowledge, we have the only facility in the USA that has the capability for recovering only vanadium from soils.

In our view, such legitimate recycling is the intent of RCRA, and we do not want to be precluded from doing just that because such contaminated soils are classified as a solid or hazardous waste. Our plant is not a RCRA treatment, storage, or disposal facility and do not want to become a TSD facility just to be able to process small quantities of such material.

We request that an exception be made for soils contaminated from spills of P119 and P120 products. Such an exception would also need to include a provision concerning the 90-day recycling time limit as addressed in item 2 below.

2. Vanadium Spills and the 90-Day Recycle Provision

It has been proposed in Section III.F. [48494] that no more than 90 days elapse between a spill event and completion of recycling. For recycling of P119 and P120 vanadium bearing soils as discussed above in Item 1, a maximum 90-day period would be inadequate and needs to be extended.

Before vanadium bearing soils could be processed to effectively recover the vanadium, sufficient tonnage of feedstocks including the contaminated soil must be accumulated prior to starting the facility. Under normal operating circumstances, this would not present a problem because the soil could be blended in with the normal mill feed. However, the level of operation of a facility with the capability to handle this type material is strongly dependent on the domestic and foreign market place for vanadium. The vanadium business has been very cyclic in the last couple decades.

Docket Number: LD12-00271 (continued)

Commenter: Strategic Minerals Corporation (STRATCOR)

Comment: (continued)

> A provision must be included in the regulations to permit a facility like ours to be able to store the contaminated soil at the recycling site until the mill is in full operation. For example, between 1982 and 1984 we were shut down for 27 months because of low worldwide demand for vanadium products. In addition, it is not uncommon for such a mill to require a couple of months of shutdown for maintenance turnaround every couple of years.
>
> We request that an exception be written into the regulations for soils and residues resulting from P119 and P120 spills that would exempt them from the 90-day recycle provision. If the EPA feels they need to have a time frame included, we suggest that a period of 18 months might be suitable as long as additional time of at least 18 months would be granted upon request by the recycler after certifying their intent to recycle.

In addition, a provision woud also need to be included that would not overly restrict storage of the contaminate soil at the recycle site while awaiting recycling. Storage along with other vanadium mill feedstocks following best management practices would be feasible.

3. Vanadium Bearing Fly Ash, Slags and Catalysts

Section III.A.5.J. [48446] states that "Vanadium wastes such as P119 and P120 can be generated as a fly ash or slag from the iron and steel industry or as a spent catalyst from the chemical manufacturing process". U.S. Vanadium Corporation and others use these materials as one of the feedstocks for their vanadium processing and recovery facilities.

Since it is impossible for P119 and P120 to be generated as a fly ash or slag and still be a 261.33(a) or (b) commercial chemical product, it is not clear whether this fly ash or slag from the iron and steel industry is to be included under these proposed regulations. If the intention is to include them, we request that such fly ash and slag be excluded from the regulations when they are to be recycled for recovery of their vanadium values. We note at 40CFR 261.4(b)(4) that similar fly ash and slags from the combustion of fossil fuels are excluded from being hazardous wastes. These materials may also be used by U.S. Vanadium as a feedstock to their vanadium processing facility when the vanadium grade warrants.

In its November, 1989 proposed Best Demonstrated Available Technology (BDAT) Background Document for P119 and P120, the Agency states (page 2-6) that "The use of vanadium compounds as catalysts is expected to generate the greatest vanadium waste volumes", and further, "The Agency expects that most of these operations would be able to ship the spent catalyst to reclaiming operations for recovery". We certainly agree that recovery of vanadium from catalyst is feasible by U.S. Vanadium Corporation and others as long as it is not regulated as a RCRA waste. Some contend these catalysts are not regulated because they are recycled or the vanadium pentoxide is not the "sole active ingredient" as referred to in the comments following 40CFR 261.33(d). To clairify this issue, we request that vanadium bearing catalysts be specifically exempted from regulation when they are to be recycled for recovery of vanadium.

Docket Number: LD12-00271 (continued)

Commenter: Strategic Minerals Corporation (STRATCOR)

Comment: (continued)

4. Alternate Vanadium Wastewater Concentration

The proposed development document referred to above states in Section 3.1.2 that "A common precipitating agent used for removal of vanadium from wastewaters is ferric sulfate which is added with pH adjustments. By treating with ferric sulfate, the vanadium is removed from the wastewaters as ferric metavanadate." From this information and data given in the USEPA October, 1989 document entitled proposed Best Demonstrated Available Technology (BDAT) Background Document for Wastewaters Containing BDAT List Constituents, the conclusion is drawn that the BDAT Treatment Limit Standards for P119 and P120 Wastewaters should be 0.042 mgV/l maximum for a 24-hour composite.

A review of the data in the October, 1989 document (page 4-250) indicates that a single data point from facility 245B was used to develop the wastewater concentration. Because no specific details were provided, we have no knowledge if this single example is applicable to P119 and P120 materials. We do have a good basic understanding and much experience with vanadium chemistry and find that the proposed limit is 100 to 1000 times less than we would expect. We doubt that reduction of vanadium levels to 0.042 mg/l in wastewater by addition of ferric sulfate is a "common" practice. We know of a facility where ferric iron was used to precipitate vanadium, but the effluent level of soluble vanadium was in the order of 1000 mgV/l. This process was only possible because the iron was already in solution and no additional iron was needed. A second process added ferrous sulfate to precipitate vanadium from an ammonium sulfate solution containing no iron. This process was abandoned because it was impractical, uneconomical and could not reduce the vanadium to acceptable levels below about 500 to 1000 mgV/l.

We regret that we find the proposed limit so unacceptable because it appears unreasonable. Prior to your deadline of May 8, 1990 we hope to have time to review existing data and develop a specific practical proposal. During the interim, we request that you hold the level in abeyance until a more reasonable value can be developed.

5. Stabilization Technology

In the P119-P120 (Nov. 1989) background document the Agency states in Section 3.1.1.(2) on page 3-3 that "Stabilization technologies involve mixing the waste with lime/fly ash mixtures, cement, concrete mixtures, or other formulations, both proprietary and nonproprietary." A reference USEPA 1989b is given as the source of this information.

This reference is not available to us at this time, therefore, we cannot determine its applicability to P119 and P120 vanadium compounds. It is common knowledge that technologies exist for stabilizing some heavy metals such as Zn, Cu, Ni or Cd by fixing with lime, fly ash or cement. Much of this technology is not directly applicable to vanadium. Table 4-1 in the above reference attempts to draw conclusions about P119 and P120 compounds by using performance data collected from incinerator ash produced from K048 and K051 sources. This seems to be an excessive stretching of data. We

Docket Number: LD12-00271 (continued)

Commenter: Strategic Minerals Corporation (STRATCOR)

Comment: (continued)

solubility data. Values range from 0.148 to 1.4 mg/l after stabilization. It would appear that these levels are inconsistant with and 3 to 33 times more than the proposed BDAT treatment standard for P119 and P120 of 0.042 mg/l. Does this mean that the proposed stabilization treatment may not be effective because the expected wastewater value would be greater than the proposed 0.042 mg/l limi?

We have little problem with the stabilization treatment proposed, but challenge again the proposed wastewater limit of 0.042 mg/l.

6. Variances

The EPA has put in a lot of effort to meet the mandate of Congress to have Land Ban regulations in place by May 8, 1990. We believe they have done an excellent job in preparing the proposed regulations and in some cases with very little data.

As with any complex-technical regulation with a "hard hammer" decisions must be based on the best information available at the time. Even if short, the comment period will bring forward some additional useful information. However, there needs to be a broad variance provision included to accommodate new information as it develops and to reduce the effect of any inequities or unnecessary restraints that may exist. Without such provision, one would have to wait until the whole regulation is modified and this could take years.

Therefore, we request a variance provision be included in the final regulations.

16.6 Disagreement with Variance

Summary:

Four commenters (Ash Grove Cement Company (171), Southern Pacific Transportation Company (183), Nortru, Incorporated (241), and Hazardous Waste Treatment Council (HWTC) (L0247)) stated that a national capacity variance is unnecessary for soil and debris, because they believe adequate capacity exists to treat certain soil and debris wastes.

Ash Grove Cement Company (171) stated that cement kilns can burn First, Second, and Third Third soil and debris wastes and that over 200 million gallons of hazardous waste fuel are being burned in cement kilns nationwide. Nortru, Incorporated (241) commented that capacity variances proposed for certain soil and debris are not warranted with current advances in solid fuel processing techniques, such as cement kilns.

Southern Pacific Transportation Company (183) stated that available chemical fixation (stabilization) capacity is widespread, which should be BDAT for K031 soil and debris. HWTC concurred with SPTC that stabilization is a better treatment than vitrification for these particular wastes.

Response:

In the proposed rule, EPA proposed to grant a national capacity variance to soil and debris requiring combustion, vitrification, mercury retorting, and wet-air oxidation. In the final rule, EPA is granting a national capacity variance for combustion, vitrification, and mercury retorting. (EPA has determined that a variance is not needed for wet-air oxidation, because this technology is no longer BDAT for F019 wastes.)

EPA agrees with those commenters stating that some cement kilns are suitable for burning certain sludges and solids. In the revised capacity estimate, EPA has included cement kilns that are currently in compliance. Based on this analysis, EPA has increased the volume of sludge/solid combustion capacity that is available for Third Third wastes (see Chapter 2 on combustion capacity). However, EPA continues to believe that insufficient combustion capacity exists for soil and debris. Therefore, EPA is granting soil and debris requiring this technology a national capacity variance.

In response to SPTC and HWTC, EPA has determined that for some arsenic nonwastewaters the standards can be met with chemical or thermal oxidation to the arsenate form followed by chemical precipitation with iron salts followed by stabilization of the precipitate. This technology may be inappropriate for all arsenic nonwastewaters, because organics are known to interfere with the stabilization process. EPA believes vitrification will work for all forms of arsenic nonwastewaters, because high temperatures are expected to destroy the organo-metallic bonds, and therefore, its performance is not limited by the presence of organics. Thus, EPA has assigned arsenic nonwastewaters to vitrification for the capacity analysis. EPA has determined that there is inadequate vitrification capacity, and thus is granting a variance to all D004 soil and debris.

Comment:

These comments relevant to this issue are presented in the following order:

- Ash Grove Cement Company (171);
- Southern Pacific Transportation Company (183);
- Nortru, Incorporated (241); and
- Hazardous Waste Treatment Council (HWTC) (L0247).

Docket Number: LD12-00171

Commenter: Ash Grove Cement Company

Comment:

EPA has also proposed a two year national capacity variance for soil and debris contaminated by First, Second, and Third Third wastes for which treatment standards are based on soil incineration. 54 Fed. Reg. 48489. Again, as discussed above and in Attachment B, cement kilns are capable and available to burn soil and debris contaminated with such wastes, which often have sufficient Btu for energy recovery. When cement kilns are considered, adequate capacity exists and no variance is justified.

Attachment A -- Vast quantities (now over 200 million gallons per annum) of HWF* are now being burned in cement kilns throughout the U.S. Attachment A shows the names of the companies and the kilns' locations, and indicates those kilns now burning "solid" (non-pumpable) as well as liquid HWF.

p 3

* HWF = hazardous waste fuel

Docket Number: LD12-00183

Commenter: Southern Pacific Transportation Company

Comment:

In contrast to in situ vitrification, chemical fixation is demonstrated, applicable, and available for treatment of soils contaminated with K031 wastes.

1.2

The availability of the chemical fixation technology is widespread as several vendors exist which are capable of performing full scale remediation.

Docket Number: LD12-00241

Commenter: Nortru, Inc.

Comment:

3) The Agency has proposed at III.B.3 (54 FR 48489) and III.B.8 (54 FR 48469) to grant a two year national capacity variance for soils and debris contaminated with wastes that are included in the LDR. We support the regulation and Land Disposal Restriction of these materials. We do not agree, however, with a few of the Agency's positions. p.15

1) Although we understand that the Agency intends to propose regulations that will further delineate soils and debris into specific treatability groups with treatment standards, we feel that the agency has left out fuel substitution or material recovery as a viable alternative to the other listed technology based standards. As we have stated in our introduction, we, and other commercial fuel blenders, have had the capability to process solid wastes into both liquid and solid fuels. We believe that some soils and debris are highly amenable to fuel blending, due to contamination with materials that have

Docket Number: LD12-00241 (continued)

Commenter: Nortru, Inc.

Comment: (continued)

high energy values, or for material recovery. The Agency has itself recognized that many solid hazardous wastes are amenable to such recovery in 54 FR 43727.

> "... These practices may be an effective approach to both beneficially use the heating value in solid hazardous wastes and provide the needed treatment capacity for such wastes" (54 FR 43727).

We request that fuel substitution be added as an acceptable technology based treatment standard for all soil and debris for which fuel blending is a viable alternative.

2) Because of our ability to fuel blend many of these materials we question the two year national capacity variance that has been proposed for soils and debris in light of the Agency's own recognition that cement kiln represent ,"...needed treatment capacity for such wastes" (54 FR 43727). Our position and rationale for these wastes are similarly addressed in our comments within item 5.

Soil & Debris

Docket Number: LD12-L0247 16-98

Commenter: Hazardous Waste Treatment Council

Comment:

With respect to K031 arsenic bearing waste, Southern Pacific commented as follows:

> "In contrast to in-situ vitrification, chemical fixation is demonstrated, applicable, and available for treatment of soils, contaminated with K031 wastes." (LD12-00183, page 6).

Southern Pacific also discusses the superior performance of stabilization over vitrification in pages 12-15 of their comments. The HWTC concurs with these comments.

16.7 Need for Certain Debris Capacity Unaccounted for In Analysis

Summary:

One commenter (Waste Management Inc. and Chem Waste Management Inc. (159)) stated that EPA should expand the scope of exemption for scrap metal to include all other forms of debris. The commenter also said that these debris wastes cannot be treated by methods applicable to "normal" wastes, and therefore, they often cannot be treated to meet the established standards.

According to the commenter, for example, stabilization of the characteristic metal nonwastewaters is an appropriate treatment only for those wastes than can be reduced to particulate form or from which the metals can be easily solubilized. Many of the wastes handled by commercial waste treatment facilities do not meet these criteria. Some of these wastes may be pretreated in order to make them amenable to stabilization. However, the commenter stated that this pretreatment will impose a strain on other treatment capacity that was not fully taken into account in the capacity analysis.

Response:

EPA agrees with the commenter that some soil and debris wastes may require special treatment before meeting the BDAT standards. EPA received several comments stating that many materials may need to be crushed or otherwise reduced in size prior to stabilization. Therefore, EPA has established a treatability group for D004 through D011 "inorganic solids debris." Wastes in this treatability group are defined as follows: nonfriable inorganic solids that are incapable of passing through a 9.5 mm standard sieve that require crushing, grinding, or cutting in mechanical sizing equipment prior to stabilization, limited to the following inorganic or metal materials: (1) metal slags (either dross or scoria); (2) glassified slag; (3) glass; (4) concrete (excluding cementitious or pozzolanic stabilized hazardous wastes); (5) masonry and refractory bricks; (6) metal cans, containers, drums, or tanks; (7) metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment; and (8) "scrap metal" according to 40 CFR 261.1(c)(6).

EPA believes that some of the debris referred to by the commenter are part of this treatability group. EPA has determined that there is inadequate capacity to treat inorganic solids debris. Therefore, EPA is granting a national capacity variance for inorganic solids debris, which include the lead-contaminated debris that are in this treatability group.

For other soil and debris wastes, EPA has assigned these wastes to their BDATs for the capacity analysis. If the commenter finds that a waste is significantly different from the waste on which the treatment standard was set, the commenter may apply for a treatability variance.

Comment:

The comment relevant to this issue is presented in the following letter:

- Waste Management Inc. and Chem Waste Management Inc. (159).

Docket Number: LD12-00159

Commenter: Waste Management, Inc. and Chem Waste Management Inc.

Comment:

V. Soil and Contaminated Debris (54 Fed. Reg. at 48,489)

In its November 22, 1989 preamble, EPA proposes to exempt certain scrap metal/listed waste mixtures from BDAT treatment standards. 54 Fed. Reg. at 48,469. Specifically, this exemption would be limited to scrap metal "that (1) has been unavoidably contaminated and (2) has had all listed waste removed by rinsing or other demonstrated decontamination techniques." Id. In addition, the Agency would require any scrap/listed waste mixture exhibiting a characteristic to comply with BDAT standards for such wastes. Id.

WMI supports the Agency's proposed management method for scrap metal/listed wastes and believes its promulgation in the final rule is essential to continued success of the land disposal restrictions program. In addition, the Agency should expand the scope of this exemption to include not only scrap metal but all other forms of debris.[4] To exclude items already defined by the Agency as debris (see footnote 1) will create an incentive to leave these items in place -- or ignore them -- rather than manage them properly in a Subtitle C land disposal facility.

As explained below, these items simply cannot be treated by the methods applicable to "normal" wastes and, therefore, often cannot be treated to meet the established standards. Accordingly, WMI proposes a special management scheme that will take account of the unusual nature of these wastes.

Docket Number: LD12-00159 (continued)

Commenter: Waste Management, Inc. and Chem Waste Management Inc.

Comment: (continued)

A. Inapplicability of Stabilization to Contaminated Debris and Other Wastes

The physical form of many hazardous wastes precludes their treatment by conventional methods. For example, EPA has proposed to establish BDAT standards for nonwastewater forms of D005, D006, D007, D008 (low level subcategory), and D011 based on values achieved with stabilization of selected listed wastes. Such a broad transfer of treatment standards is inappropriate because it ignores the broad variety of waste types that may be encompassed within each of these waste codes. Stabilization is an appropriate treatment technology only for those wastes that can be reduced to particulate form or from which the metals of concern can be easily solubilized. While all of the wastes used by EPA in establishing the treatment standards meet these criteria, many of the wastes handled by a commercial waste treatment facility do not meet these criteria but nevertheless are EP toxic for metals. These wastes generally are solid materials and debris which either are contaminated with EP toxic metals or contain EP toxic metals, but which cannot be solubilized or reduced to particulate form.

Docket Number: LD12-00159 (continued)

Commenter: Waste Management, Inc. and Chem Waste Management Inc.

Comment: (continued)

While it may be possible to treat some of these wastes to make them amenable to stabilization by, for example, incinerating organic wastes or decontaminating surface contaminated wastes that have nonporous surfaces, such treatment will be impossible for other wastes. For example, there is no effective treatment available for asbestos that is contaminated with metals. Similarly, there are other wastes that cannot be incinerated and cannot be made amenable to stabilization. Moreover, shifting a large volume of these wastes to incineration, will impose a strain on the nation's already limited incinerator capacity that was not accounted for by the Agency in its capacity calculations.

P 1E

16.8 Capacity Estimations for Foundries

Summary:

One commenter, American Foundrymen's Society, Inc. (042), believes EPA may have underestimated quantity of wastes generated by foundries and ingot manufacturers. By commenter's estimates, at least 317,699 tons of potentially EP toxic materials were generated by foundries in 1988.

Hazardous Waste Treatment Council (HWTC) (L0247) responded to American Foundrymen's Society's comment, concluding that their estimations do not affect the results of the capacity analysis, because there is adequate stabilization capacity to treat foundry wastes.

Response:

The capacity analysis is based on the volume of hazardous waste surface- and deepwell-disposed. EPA acknowledges that the commenter submitted information on the generation of wastes from foundries and ingot manufacturers. The commenter did not provide sufficient information (e.g., volumes of hazardous wastes being land disposed) for EPA to include these data in the capacity analysis. EPA will continue to investigate the volumes of these foundry and ingot wastes that are land disposed. However, EPA determined that as a "worst-case" scenario, if all the wastes were land disposed that the commenter generates, there would still be sufficient capacity to treat these wastes.

Therefore, EPA agrees with HWTC that even if these volumes were incorporated into the analysis, no capacity variance would be needed, because there is adequate treatment capacity for these wastes.

Comment:

The comments relevant to this issue are the following:

- American Foundrymen's Society, Inc. (042); and
- Hazardous Waste Treatment Council (L0247).

Docket Number: LD12-00042

Commenter: American Foundrymen's Society, Inc.

Comment:

Underestimation of Quantity

The data in the subject proposal only lists in general terms the quantity generated by SIC major code 33, Primary Metals Industry, in which many, but not all, foundries and ingot manufacturers fall. For example, by our estimates, at least 317,669 tons of potentially EP toxic materials were generated by foundries in 1988 (Attachment 2).

The following information and calculations are based on a phone survey of 200 ferrous (iron and steel) foundries, Department of Commerce data, Bureau of Mines data, EPA report titled "Sampling and Analysis of Wastes Generated by Gray Iron Foundries" (EPA-600/S4-81-028), and common practices in the foundry industry.

EP TOXIC WASTE VOLUME POTENTIALLY GENERATED BY IRON AND STEEL FOUNDRIES

For every ton of metal melted by an iron or steel foundry, approximately 20 pounds of air pollution dust/sludge is generated.

According to the Bureau of Mines, iron and steel foundries purchased 20,545,000 short tons of ferrous scrap in 1988. This figure may be underreported due to foundries not responding to the Bureau of Mines survey.

Of the 200 iron and steel foundries responding to a phone survey, 125 reported that their air pollution control dust/sludge was EP toxic for either lead or cadmium.

Therefore, the volume of EP toxic air pollution control dust/sludges generated by iron and steel foundries in 1988 is approximately:

(dust generation rate) x (melted metal rate) x (% EP toxic)

or

(20 pounds/ton melted) x (20,545,000 tons melted) x (125/200)

or

256,812,500 pounds

or

aproximately 128,406 tons of EP toxic dust/sludges.

Docket Number: LD12-00042 (continued)

Commenter: American Foundrymen's Society, Inc.

Comment: (continued)

EP TOXIC WASTE VOLUME POTENTIALLY GENERATED BY BRASS AND BRONZE FOUNDRIES

For every ton of metal melted, 500 pounds of waste sand is produced.

98% of waste sand from brass/bronze foundries is EP toxic for lead.

Typical yield (weight of casting shipped divided by weight of metal melted) is 33% for a brass/bronze foundry.

According to the Department of Commerce, 515,000,000 pounds (257,500 tons) of brass/bronze castings were shipped in 1988.

Therefore, 772,500 tons of metal was melted by brass/bronze foundries in 1988 (tons shipped divided by yield).

Volume of EP toxic waste sand generated by brass/bronze foundries in 1988 is approximately:

(waste generation rate) x (metal melted) x (% EP toxic)

or

(500 pounds/ton melted) x (772,500 tons melted) x (98%)

or

378,525,000 pounds

or

189,263 tons of EP toxic waste sand.

Docket Number: LD12-L0247

Commenter: Hazardous Waste Treatment Council

Comment:

5. Comments of the American Foundrymen's Society (Docket #LD12-00042)

The comments of this organization suggests that EPA has underestimated capacity required for other EP toxic materials generated by foundries and ingot manufacturers. They highlight an additional 128,406 tons/year of EP toxic dust and sludges from iron and steel foundries, and 189,263 tons/year of EP toxic sands from brass and bronze foundries (see attachment 2 of their comments), for a total of 317,669 tons/year of lead waste they claim EPA has underestimated.

Based on stabilization of these wastes, more than adequate capacity exist. As noted in Section F-2above, EPA has shown that 344.5 million gallons/year available capacity exist for stabilization. Assuming a density of 10 lbs/gal. this equates to approximately 1.7 million tons/year of available capacity. The additional 0.317 million tons/year required capacity that the Foundrymen's Society claims EPA underestimated is therefore not a problem.

Finally, the effects of the TCLP test on required capacity is insignificant. The TCLP test is less aggressive, not more aggressive than the EP procedure, since the solution is buffered during the extraction. This is not a valid reason to grant a capacity variance for lead wastes.

CHAPTER 17

MISCELLANEOUS CAPACITY COMMENTS

EPA received 21 comments (Glass Packaging Institute (GPI; 78), Advanced Environmental Technology Corporation (AETC; 83), Mill Service (89); BP America (98), the Synthetic Organic Chemical Manufacturer's Association (SOCMA; 108), Hunter Industrial Facilities, Inc. (HIFI; 112), the Monsanto Company (116), Lederle Laboratories (American Cyanamid; 144), the Association of State and Territorial Solid Waste Management Officials (ASTSWMO; 157), the American Petroleum Institute (168); Environmental Systems Company (ENSCO; 188), Union Carbide (190); Sterling Chemicals (197); the Petroleum Marketers Association of America (PMAA; 205), Browning Ferris Industries (BFI; 214), BP Chemicals (216), Caterpillar, Inc. (236), the State of New Jersey Department of Environmental Protection (NJDEP; 253), Allied Signal (267), ETICAM (270), and the Strategic Minerals Corporation (STRATCOR; 271)) that could not be classified in any of the categories in the previous chapters. This chapter addresses these comments, classified as miscellaneous capacity comments. The comments are divided into six categories:

- Methodology;
- Dilution;
- Treatment standards for characteristic wastes;
- Other treatment issues;
- Variance requests; and
- Capacity data submissions.

17.1 Methodology

Summary:

Four commenters (BP America (98), Lederle Laboratories (American Cyanamid; 144), Environmental Systems Company (ENSCO; 188), Caterpillar, Inc. (236), and the Monsanto Company (116)), questioned EPA's methodology for the capacity analysis.

BP America stated that EPA failed to include several large volume categories in its capacity analysis. These categories included wastes from corrective action activities; wastes previously nonhazardous due to their aggregation, but now requiring treatment as a result of EPA's reinterpretation of permissible dilution; F, K, U, and P wastes in surface impoundments awaiting approved closure plans; and multi-source leachate.

Lederle Laboratories (American Cyanamid) asserted that not including the waste volumes requiring BDAT (such as incineration for sludges, p. 4) at CERCLA sites in the capacity analysis or cost considerations is a flaw in the regulatory process.

ENSCO stated that EPA should regularly reassess the data used to determine proposed capacity variance extensions. ENSCO said that HWTC had identified major permitted and operating commercial facilities that were not listed or counted in capacity calculations. HWTC's recent survey demonstrated that capacity is available to handle D001 ignitable solids and sludges.

Caterpillar, Inc. questioned the accuracy of EPA's capacity analysis for commercial treatment of characteristic wastes and the ensuing cost to comply with proposed treatment limits. Caterpillar stated that since the Agency used surveys based on the Extraction Procedure (EP) to estimate the quantity of characteristic waste, the quantity will increase when EPA substitutes the TCLP for the EP method. Specifically, Caterpillar asserted the TCLP would add 31 new wastes and that their data indicated the TCLP extracts higher metal concentrations than the EP.

Monsanto stated that even where adequate capacity exists, EPA should consider related capacity requirements such as temporary waste storage, and the arrangement of alternative shipment, treatment, and disposal of these wastes.

The National Association of Manufacturers (NAM; 107: p. 3) pointed out that if EPA fails to meet the May 8, 1990 deadline, a land ban on wastes would result. Industry itself would then be forced to deal with the problem of how to dispose of hazardous wastes. The commenter asserted that should the stringent trend of environmental laws continue, it would jeopardize practical waste disposal and clean-up efforts in the future. NAM stated that even variances granted by the administrator, such as a two-year extension for waste disposal, are limited by the requirement that the administrator acknowledge that no adequate alternate treatment recovery or disposal capacity exists. Another limitation is that these variances are only temporary.

Response:

EPA estimates that for corrective action wastes, estimated volumes of soil and debris are sufficiently high that such wastes as inorganic solid debris and wastes requiring combustion, wet air oxidation, vitrification, and mercury retorting will receive a national capacity variance. These wastes include volumes from corrective actions, and increasing volumes would not affect the variance decision. The Agency is also aware that a large amount of corrective action wastes are treated on-site, and consequently do not require commercial treatment capacity at fixed-site facilities.

BP America's comment on waste volumes added as a result of the proposed dilution prohibition interpretation are addressed in section 17.2 of this chapter.

For F, K, U, and P wastes in surface impoundments awaiting closure, based on the TSDR Survey, EPA has analyzed the affects of surface impoundment closures, and has assigned these waste volumes to alternate treatment/disposal technologies. Commenters did not provide sufficient data for any specific surface impoundments, therefore EPA could not perform additional analysis of the problem expressed by the commenters.

Multi-source leachate comments are addressed in Chapter 13 of this response to comments document.

EPA regularly updates its capacity data base for critical technologies for which capacity is limited (e.g. sludge/solid incineration) as the Agency identifies new data. EPA agrees with ENSCO that some existing available capacity was not included in the analysis for the proposed rule and added this capacity as appropriate.

In regard to the Monsanto comments (116), EPA responds that an analysis of available national capacity for alternate treatment technologies was performed according to the statute. The Agency based this analysis on the best available data regarding the availability of capacity. EPA is not aware of any problems related to shipping capacity, but has addressed problems of storage inadequacies that potentially render capacity unavailable (e.g. storage of lead wastes at secondary lead smelters). EPA points out that as explained in the Preamble, EPA is extending all Third Third prohibition dates for 90 days. EPA believes capacity will be unavailable until that time due to this rule's unprecedented length and complexity. It may take up to 90 days to determine how to lawfully comply (ability to lawfully utilize treatment capacity is a relevant factor in determining if there is available capacity). In addition, EPA believes 90 days provides a window to make whatever process changes, transport arrangements, contractual agreements, and logistical modifications that are necessary.

In response to the NAM comment (107), Congress established the land disposal restrictions to prohibit the land disposal of hazardous wastes that have not undergone prior treatment. EPA has assessed the availability of alternative treatment for all affected wastes, and has granted or is granting national capacity variances for those codes for which sufficient alternative treatment capacity is not available.

Comments:

The miscellaneous methodology comments are presented in the following order:

- BP America (98: p. 16);
- The Monsanto Company (116: p. 21)
- Lederle Laboratories (American Cyanamid) (144: p. 5);
- Environmental Systems Company (ENSCO) (188: p. 4); and
- Caterpillar, Inc. (236: p. 2).

Commenter: BP America, Inc.

Comment:

IX. EPA has failed to include several large volume categories of waste in preparing its capacity analysis (page 16).

- These categories include: waste from corrective action activities, wastes rendered nonhazardous by aggregation, commingled U and P wastes, waste in surface impoundments awaiting closure plan approval, and multi-source leachate.

IX. EPA has failed to include several large volume categories of waste in preparing its capacity analysis.

EPA has either failed to include or substantially underestimated the volume of several categories of waste in developing data to determine if alternative treatment is available.

- EPA has not quantified the amount of waste that will need treatment due to corrective action activities probably partly because there remains considerable uncertainty as to the amount of material that will need treatment as a result of corrective action activities.
- EPA's modification of the dilution rule will increase the universe of wastes requiring alternative treatment since waste rendered nonhazardous prior to land disposal will in many cases need to be treated to meet BDAT.
- In some cases, wastewater carrying U, P, F, and K codes remain in surface impoundments awaiting approved closure plans. EPA assumes that all of the volume originally identified as being stored, treated, or disposed in surface impoundments does not require alternative treatment capacity.
- EPA recognizes that the volumes estimated for multi-source leachate are based on a limited data set and are therefore most likely considerably less than the actual volumes needing alternative treatment capacity.

Commenter: Monsanto Company

Comment:

K. National Capacity Variance For Characteristic Wastes

Monsanto does not need to remind the Agency of the very extensive scope of this rulemaking effort. Well over 300 listed wastes are the subject of this rule, as are all of the wastes that are hazardous because they exhibit a characteristic of hazardous waste as defined by 40 CFR 261 Subpart C. Many of the issues involved in this rulemaking, particularly those involving characteristic wastes, are complex so that EPA has properly asked for comment and information.

In this environment, the statutory requirement that prohibitions be immediately effective upon promulgation (unless a national capacity variance is granted) presents an unmanageable burden unless the Agency acts to provide the time necessary to install facilities and arrange compliance requirements. Without this action, significant inadvertent noncompliance is likely to arise upon rule promulgation. This is particularly true in the situations involving characteristic wastes.

Alternative loading or packaging, shipping, treatment and disposal arrangements may be required to implement BDAT. For this reason, Monsanto urges the Agency to delay the effective date for BDAT for characteristic wastes, where they have not otherwise proposed to do so.

Monsanto does not diminish the arguments made separately herein and in comments submitted by CMA that the Agency should not establish BDAT for characteristic wastes beyond levels at which the waste ceases to be hazardous. And the Agency should not implement dilution prohibitions, particularly those involving characteristic wastes, which will disrupt the present successful and lawful operation of wastewater management systems. Even then, the Agency should consider a delay of the effective date of prohibitions, particularly those impacting characteristic wastes, for at least six (6) months. Even in those situations where EPA judges that national treatment capacity exists to treat the wastes to BDAT standards, the capacity consideration must be broadened to consider the related capacity requirements to access the treatment capacity. This will include the need to install capacity to store restricted wastes and to arrange for alternative shipment, treatment and disposal of these wastes. Alternatively, adequate time may be required to provide for on-site treatment facilities such as neutralization.

The Agency has already established a willingness to provide time for implementation of the practical requirements imposed by land bans where treatment capacity is otherwise judged to be available nationally. In the Second Third final rule, the effective date for F007, F008 and F009 was delayed 30 days "to be cautious and allow time (if any is truly needed) for facilities to adjust existing cyanide treatment processes." Similarly, F011 and F012 effective dates were also delayed 30 days. (54 FR 26637, June 23, 1989.) Further, in this Third Third rulemaking the Agency is proposing in effect an added nine-month delay of several new BDAT requirements imposed on petroleum refining wastes K048-K052. (54 FR 48483/3, Nov. 22, 1989.)

Docket Number: LD12-00144 17-7 Miscellaneous Capacity Comments

Commenter: Lederle Laboratories

Comment:

> We further urge EPA to reinvigorate the rulemaking procedure for site-specific variances from the treatment standards required by the land disposal regulations, by making it clear that such variances are available in cases like that at our Bridgewater site. In addition, the mechanism for obtaining this type of variance also requires clarification.

The Bridgewater site, as an example, contains approximately 800,000 tons of sludges in 16 impoundments that will require remediation and closure under a State Administrative Consent Order (ACO) program. The sludges in

p 4

Docket Number: LD12-00144

Commenter: Lederle Laboratories

Comment:

We are not saying that all wastes present at CERCLA sites are not amenable to incineration. We are saying, however, 4
that incineration cannot be mandated for complex CERCLA non-wastewaters 5
on the basis of a technology transfer from presently generated, less complex, non-wastewaters. This mandate for incineration must be made on a waste-specific basis.

The EPA also acknowledges the discrepancies between CERCLA remediation criteria, based upon risk assessment and the land disposal restrictions, based on technology. 54 FR at 48502. However, although the Agency acknowledges that less-effective in-situ closures may occur on CERCLA sites to avoid the land disposal restrictions, they offer no alternatives. In addition, the waste volumes requiring Best Demonstrated Available Technology (BDAT) at CERCLA sites are not included in the capacity or cost considerations, a flaw in the process.

The requirement for incineration at sites like Bridgewater is premised on BDAT, determined by EPA for wastes prior to their land disposal and the resulting contamination of large quantities of soil and debris.

Docket Number: LD12-00188 17-9 Miscellaneous Capacity Comments

Commenter: Environmental Systems Company (ENSCO)

Comment:

G) CAPACITY EXTENTIONS GENERALLY/DOO1 SPECIFICALLY

1-7 We urge EPA to regularly reassesses the data used to determine proposed capacity extensions. In the Treatment Council's review of capacity data, they found several instances where major permitted and operating commercial facilities were not listed or counted in the capacity calculations. While we acknowledge the complexity of measuring this fast-changing universe of sites, we believe that additional resources should be devoted to this process.

Insofar as D001 is concerned, we believe that the Treatment Council's recently completed survey demonstrates that capacity is available to handle DOO1 ignitable solids and sludges.

Docket Number: LD12-00188 17-10 Miscellaneous Capacity Comments

Commenter: Environmental Systems Company (ENSCO)

Comment:

A) BDAT Treatment Standards Set Below "Characteristic" Levels

ENSCO strongly supports the position taken by EPA in the proposed rule concerning the treatment of characteristic wastes. To take the position previously considered by EPA — that characteristic wastes required "treatment" only to the point that the original characteristic was removed — would have posed critical environmental problems and would have conflicted with the basic legislative policy underlying the 1984 enactment of the land disposal restrictions.

EPA's current proposal properly balances environmental protection with considerations of practicality and implementability. While treatment is required below the characteristic level — addressing the dangers posed by hazardous constituents other than those directly linked to the original characteristic — the residues of this treatment do not necessarily require disposal in Subtitle C land disposal facilities. This approach limits the costs and economic disruption potentially posed by EPA's new standards, and avoids the capacity dilemmas that might have otherwise been posed for currently-available Subtitle C land disposal facilities.

Commenter: Caterpillar Inc.

Comment:

2. Quantity of Characteristic Waste

The EPA based the quantity of characteristic waste in the proposal on a 1986 "National Survey of Hazardous Waste Treatment, Storage, Disposal and Recycling Facilities" and the 1984 "National Survey of Hazardous Waste Generators and Treatment, Storage and Disposal Facilities."

The quantity of characteristic waste in these surveys was based on the Extraction Procedure (EP) which is the test method presently used to identify a characteristic waste. However, the EPA has stated the Toxicity Characteristic Leaching Procedure (TCLP) will be substituted for the EP method in the very near future, at which time thirty-one new wastes will be added to the characteristic waste list.

We believe the universe of characteristic wastes will increase substantially based on:

a) the addition of 31 new wastes
b) the limited data we have compiled comparing the EP and TCLP methods on the same wastes which indicates much higher metal concentrations are extracted by the TCLP method

In addition, nonhazardous landfills may be reluctant to accept noncharacteristic waste unless contaminant levels are below the concentrations which must be met for disposal at a hazardous waste landfill.

We, therefore, question the accuracy of EPA's capacity requirements for commercial treatment of characteristic wastes and the cost to comply with the proposed treatment limits.

17.2 Dilution

Fifty-five letters were submitted regarding EPA's interpretation of the dilution prohibition in the Third Third rule. Seven of these commenters (Mill Service (89); American Petroleum Institute (168); Union Carbide (190); Sterling Chemicals (197); BP America (98); BP Chemicals (216), and Synthetic Organic Chemical Manufacturer's Association (SOCMA; 108)) specifically commented that EPA's proposed dilution prohibition interpretation would impact available treatment capacity.

Summary:

Six commenters, Mill Service (89); American Petroleum Institute (168); Union Carbide (190); Sterling Chemicals (197); BP America (98); and BP Chemicals (216), indicated that by not allowing the aggregation of waste streams for legitimate treatment (unless the toxicity or mobility of at least one BDAT constituent is reduced) would cause severe disruptions in industry, would increase the demand for alternative treatment capacity, and would create the need for certain national capacity variances. Commenters argued that streams that have been traditionally aggregated for treatment would have to be segregated and treated separately under the proposed interpretation. They argued that EPA must recalculate its capacity determinations, because figures used to date were based on the treatment of combined waste streams. Commenters suggested that these segregated streams would create a demand for several technologies that may exceed available capacity for these technologies, thus warranting a national capacity variance.

Response:

EPA's interpretation of the dilution prohibition found in the final rule states that aggregation of waste streams for centralized treatment is generally permissible, provided that the wastes are all legitimately amenable to the same type of treatment and this method of treatment is utilized for aggregated waste. In terms of capacity, EPA believes that most (or all) of the streams the commenters are concerned about fall into this category and will not, therefore, have to be segregated and treated separately. In addition, dilution rule will not apply to most characteristic wastewaters at Clean Water Act/Safe Drinking Water Act facilities. Aggregation for legitimate centralized treatment that is currently taking place, in most cases, will be allowed to continue in the future. Because of this, a reanalysis of the capacity numbers in terms of aggregation for treatment is not necessary, and the final dilution prohibition interpretation with regard to aggregation for legitimate centralized treatment does not create a need for a national capacity variance for any wastes.

Summary:

Two of the dilution prohibition commenters, Synthetic Organic Chemical Manufacturer's Association (SOCMA) (108) and BP America (98), indicated that EPA must assess alternative treatment capacity in light of those characteristic wastes that are currently diluted to below characteristic levels and disposed of in landfills or waste piles. SOCMA states the "EPA recognizes that it has no data upon which to assess the volumes of wastewaters which initially exhibit a characteristic of hazardous waste but which are diluted before entry or placement into a land disposal unit." SOCMA also states that "many companies treat hazardous wastes to non-hazardous levels through dilution and then subsequently send these materials to landfills or store them in waste piles," and that "the need for alternative capacity should have been assessed for these facilities as well."

Response:

EPA's final dilution prohibition determination allows the dilution of several types of characteristic wastes, and because of this, the dilution prohibition does not create large amounts of characteristic wastes that were not accounted for in the capacity analysis. The final dilution prohibition allows the dilution of non-toxic D001 (ignitable), D002 (corrosive) , and D003 (reactive) characteristic wastewaters and nonwastewaters to remove the hazardous characteristic. The dilution interpretation also allows the dilution of most characteristic wastewaters, since a large amount of these wastes are already regulated under the Clean Water Act or Safe Drinking Water Act. The dilution prohibition does restrict the dilution of toxic nonwastewaters that are land disposed. EPA believes that dilution of toxic non-wastewaters is dilution to avoid treatment and the prohibition of the dilution of these wastes is consistent with dilution prohibition policy to date. EPA does not believe that there are large amounts of toxic nonwastewaters that are diluted to wastewater or below characteristic levels and land disposed and does not believe that the final dilution prohibition interpretation affects the national capacity variance decisions.

Comments:

The capacity comments related to the dilution prohibition are presented in the following order:

- Mill Service (89: pp. 3-4);
- BP America, Inc. (98: p. 16);
- Synthetic Organic Chemical Manufacturer's Association (SOCMA; 108: pp. 26-27);
- American Petroleum Institute (API; 168: pp. 85-86);
- Union Carbide (190: pp. 6-8);
- Sterling Chemicals (197: pp. 2-4);
- BP Chemicals (216: pp. 16-17)

SECTION: ________

COMMENTER NAME: Mill Service Inc.

COMMENTER I.D. #: LD12-0089

PAGE # 3-4

Impermissible Dilution

Like most TSD facilities, Mill Service, Inc. generally combines compatible wastes for storage in tanks prior to treatment. This aggregation is performed for the purpose of optimizing the operation of the treatment unit which is significantly larger in size than individual shipments of waste received at the facility. All of the wastes combined in a single storage tank are scheduled to be treated by the same technology, for example lime neutralization of acidic wastes. However, each of the individual wastes combined in the storage unit possesses slightly different characteristics. One waste may be acidic and contain lead while another waste may be acidic and contain chromium even though it is conceivable that both wastes would carry the same code, e.g. K062. The result of the combination of the wastes is that the chromium and lead are both diluted to a degree based on the relative concentrations present in the individual wastes. According to the proposed rule, aggregation of these wastes would not be permitted since no waste constituents are treated as a result of the aggregation.

We do not believe that aggregation of waste for the purpose of treatment by the same technology should be considered impermissible dilution. In the case described, the purpose of the aggregation is not to circumvent the treatment standard. We believe that it is important for EPA to consider the economies introduced by combining compatible wastes for treatment versus the potential impact on the environment. Requiring our company to handle these wastes individually would reduce our ability to utilize the treatment unit by approximately 50%. We expect that other commercial waste treatment facilities, as well as captive facilities, would be similarly impacted, significantly reducing the capacity available to treat these wastes.

It has been common practice throughout industry to combine similar wastes for treatment and most existing treatment systems are designed on this basis. Prohibition of the aggregation of wastes for treatment unless one or more constituents are treated as a result of the aggregation will immediately and severely impact both commercial and captive waste treatment facilities until such time as additional waste storage and treatment units can be designed, permitted and installed. This will likely require EPA to recalculate its capacity determinations, since the figures developed to date were presumably based on figures developed from the treatment of combined wastes. The result will be additional national capacity variances until and a greater impact on the environment in the interim.

SECTION: ________ (Dilution Rule)

COMMENTER NAME: BP America

COMMENTER I.D. #: LD12-00078

PAGE # 1 ~~(Comment Summary)~~

II. EPA should withdraw its re-vamping of the dilution rule (page 6).

- o Many facilities that have correctly understood their waste streams to be nonhazardous, not restricted, or subject to a delayed prohibition will be severely penalized (page 6).
    - o Waste that is nonhazardous when it is land disposed, which is not prohibited from land disposal, will be in violation of the Agency's modified dilution rule.
    - o Any reinterpretation of the dilution rule should not be made retroactive to the California-List wastes.
- o Aggregation for treatment is normal and necessary for cost-effective treatment and should not be considered impermissible dilution (page 7).
    - o Since EPA has used aggregated streams to set treatment standards, it already recognizes that centralized treatment of these streams does not interfere with treatment and is obviously sound, both technically and environmentally.
    - o When EPA has established a treatment level that is applicable to a waste grouping, EPA should allow aggregation for centralized treatment within the treatability group.
    - o Aggregation of D002 Acid and Alkaline subcategory waste enhances treatment, minimizes salt formation, and conserves resources.
    - o Centralized treatment improves treatment efficiency, effectively treats characteristic wastes, and enables collection and recycle of hydrocarbon streams within a refinery (page 9).
        - o Corrosive wastes are commingled within refinery wastewater treatment facilities to minimize chemical addition.
        - o Chromate in cooling tower blowdown is converted to the insoluble form and precipitated in centralized treatment facilities.
        - o Iron sulfide scale is either precipitated or biologically treated in centralized treatment facilities.

SECTION: (Dilution)

COMMENTER NAME: BP America

COMMENTER I.D. #: LD12-00098 page 6-9

II. EPA should withdraw its re-vamping of the dilution rule.

The Agency's proposed expansion of its rules regarding "impermissible dilution" will significantly increase the number of waste streams potentially subject to prohibitions and subject many facilities to earlier than anticipated prohibition dates. This current proposal requires that aggregation for centralized treatment result in the actual reduction in the toxicity or mobility of at least one BDAT constituent in each prohibited waste that is centrally treated. This proposed expansion could significantly reduce the number of treatment units that qualify as legitimate centralized treatment units.

The Agency in a number of rulemakings has attempted to define and clarify the dilution prohibition. Under existing rules, aggregation of wastes is impermissible if it is done to avoid prohibitions or to achieve a treatment level (54 FR 40592, 53 FR 28124). EPA has specified that aggregation of waste streams to facilitate treatment is permissible (52 FR 22356, 52 FR 25768) and that the Agency does not intend to prohibit dilution which is necessary to facilitate treatment (51 FR 40592, 53 FR 28124). Even though EPA is labeling this major change in policy an amplification of its interpretations, it will create serious administrative problems for the Agency and dislocation among industry.

The vast majority of wastewater treatment facilities, including petroleum refineries and petroleum facilities as well as chemical industry facilities, and deep well injection facilities aggregate waste water for treatment. Such treatment was designed and implemented long before anyone had any reason to be concerned about compliance with the land disposal restrictions. Centralized treatment improves overall treatment efficiency, effectively treats characteristic wastes, and enables effective collection and recycle of hydrocarbon streams within refinery facilities. BP America, along with most companies, has relied upon the existing interpretation of the dilution rule to determine the applicability and timing of the land disposal prohibitions.

A. Many facilities that have correctly understood their waste streams to be nonhazardous, not restricted, or subject to a delayed prohibition will be severely penalized.

1. Waste that is nonhazardous when it is land disposed and which is not prohibited from land disposal will be in violation of the Agency's modified dilution rule.

Centralized wastewater treatment facilities which do not treat any listed hazardous waste, frequently treat characteristic hazardous waste that no longer exhibits the characteristic at the point of aggregation. These facilities may include one or more subtitle D surface impoundments. If the re-vamped dilution rule is finalized, the characteristic wastewater will need to be treated to meet BDAT before it is aggregated, even though it will be below the characteristic threshold when it enters the land disposal unit.

Additionally affected will be industrial facilities (like BP Oil) that have been preparing for EPA's proposed new organic toxicity characteristic (OTC) in the expectation that the new definition would curtail continued use of existing surface impoundments only if the influent exhibited the new characteristic. Frequently these waste waters are aggregated for removal of the

Commenter ID. LD12-00075
Page: 6-9

SECTION: (Dilution)

COMMENTER NAME: BP America

new characteristic (OTC). If the revised dilution rule is finalized, in many cases the wastewater would need to be treated to meet the BDAT levels prior to aggregation. This substantial redesign of wastewater treatment facilities would not be cost effective due to redundant treatment equipment and additional manpower needed to operate the redundant treatment equipment. In older facilities, particularly, space within the process area is unavailable. Therefore, it may be infeasible to build treatment facilities upstream of the wastewater treatment facility.

2. Any reinterpretation of the dilution rule should not be made retroactive to the California-List wastes.

Most injection well facilities, including BP Chemicals, aggregate their wastewater for treatment prior to injection. At the point of aggregation, the wastewater at the BP facilities is below both the hazardous characteristic threshold and the California-List concentrations. The Agency has already articulated a specific rationale for wastes potentially subject to the California-List prohibitions. This rationale clearly recognizes that aggregation that facilitates treatment is not impermissible dilution and gives examples of such cases (52 FR 25765). Operators, who in good faith, have relied on this rationale should not be forced into procedural default. BP Chemicals has submitted "no migration" petitions on a timely basis to try to obtain approval prior to the prohibitions becoming effective. The proposed change in the dilution rule would change the timing of the prohibitions, shortening the timetable by as much as 21 months. Since the California-List prohibitions were just that - prohibitions - and did not set BDAT, any changes in the dilution rule should not be retroactive to the applicability of the California-List prohibitions.

B. Aggregation for treatment is normal and necessary for cost-effective treatment and should not be considered impermissible dilution.

EPA's proposed narrow interpretation of the appropriateness of centralized treatment is not consistent with normal and necessary aggregation that enhances treatment and is cost effective. Within this rulemaking are several examples of normal and necessary aggregation for treatment that EPA recognizes as sound technically and environmentally.

1. Since EPA has used aggregated streams to set treatment standards, it already recognizes that centralized treatment of these streams does not interfere with treatment and is obviously sound, both technically and environmentally.

K011 and K013 are wastestreams generated in the production of acrylonitrile. K014 is generated in the production of acetonitrile. These wastewater streams are always commingled by the generators for treatment prior to injection. For the wastewater treatability group, EPA evaluated separate treatment standards for K013, K013/K011, and K011/K013/K014. After evaluating treatment options, the Agency grouped the wastes for setting BDAT standards and established concentration limits based upon wet air oxidation of the mixture. The performance data EPA has relied upon to establish the standard was a mixture of K011/K013 and a mixture of K011/K013/K014. The individual wastes vary significantly in hazardous constituent concentration. For example, K011 wastewaters typically contain about 400 to 2000 mg/l of acetonitrile; and K014 can contain 20,000 mg/l of acetonitrile. Since the Agency has aggregated

SECTION: B (Dilution)

COMMENTER NAME: BP America

COMMENTER I.D. #: ~~Page C-9~~ L012-00098 Page C-9

these wastes to determine the treatment standard, any aggregation of these streams should be permissible, even if it results in dilution.

2. When EPA has established a treatment level that is applicable to a waste grouping, EPA should allow aggregation for centralized treatment within the treatability group.

Where data were not available on the treatment of specific wastes of concern, the Agency elected to transfer performance data from the treatment of waste with hazardous constituents that are similar, using a demonstrated technology considered appropriate. To transfer data from another waste category, EPA must show that the wastes are no more difficult to treat (based on the waste characteristics that affect performance of the demonstrated treatment technology) than the treated wastes from which performance data are transferred. The Agency believes that U coded wastes containing aromatic hydrocarbons are similar to F and K coded wastes containing aromatic hydrocarbons. Therefore, the Agency has determined that it is valid to use the performance data from F and K coded waste to develop the U coded waste standards. The performance standard for U coded waste in the "aromatics and other hydrocarbons" treatability group has been established based upon a transfer of the treatment performance data for K001 (creosote) wastes (BDAT Background Document for Aromatics and Other Hydrocarbon U Wastes). K001 treatment performance data were chosen because the Agency's methodology was to select the waste code with the highest detection limit from the waste code with the constituent of concern present in the untreated waste. Therefore, since the Agency has established a treatment level for the U coded waste that should be able to be met by all of F and K coded wastes containing aromatic hydrocarbons, it should be "legitimate" to aggregate these wastes for treatment.

3. Aggregation of D002 Acid and Alkaline subcategory wastes enhances treatment, minimizes salt formation and conserves resources.

EPA recognizes that facilities that generate both an acidic and alkaline waste may be able to utilize the fluctuations in pH as a means of performing on-site neutralization (54 FR 48423). This mixing is clearly not dilution and results in the minimum formation of wastewater and salts. For example, facilities that demineralize water for boiler feed water typically regenerate the ion exchange beds creating an acidic and an alkaline wastewater. Combining these to neutralize the streams avoids the need to use additional acidic or alkaline solutions which, if added, increase the overall volume of wastewater and sludges generated. The Agency should encourage the mixing of wastewater streams to reduce the addition of chemicals needed to neutralize D002 waste and should clearly identify the aggregation as legitimate since it facilitates treatment and is obviously permissible dilution.

In some cases, as acknowledged by EPA, dilution is necessary for treatment of D002 Acid and Alkaline subcategory wastewater to provide a heat sink to control very exothermic reactions or toxic air emissions (54 FR 48423). Allowing aggregation in a centralized treatment unit will minimize the volume of wastewater generated compared to segregating the concentrated D002 wastewater and adding water to control the exothermic reaction.

SECTION: (Dilution)

COMMENTER NAME: BP America

COMMENTER I.D. #: LD12-00098

PAGE # 6-7

A typical refinery wastewater treatment system commingles many streams in an extensive sewer collection system. Several of these streams exhibit one or more characteristics of a hazardous waste. The refinery wastewater treatment facility is designed to treat these commingled wastes. The aggregation is done not to avoid a land disposal prohibition but to enhance cost-effective treatment.

4. Corrosives wastes are commingled within refinery wastewater treatment facilities to minimize chemical addition.

A typical refinery wastewater treatment facility manages both spent acids and spent caustics. Commingling of the various waste streams neutralizes these corrosive wastes. When necessary the pH is controlled by the addition of acid or caustic to maintain the pH between 6-9 for oil recovery, biological treatment, and for discharge. Our National Pollution Discharge Elimination System (NPDES) permits limit the effluent pH to within 6 to 9. Obviously the centralized treatment facility treats, not merely dilutes, the spent acid and caustics that are aggregated for treatment.

5. Chromate in cooling tower blowdown is converted to the insoluble form and precipitated in centralized treatment facilities.

Some refinery centralized treatment systems commingle cooling tower blowdown waters with chromium concentrations greater than 5 mg/l with other refinery wastewater streams for treatment. The chromate contained in cooling water blowdown is converted from the soluble hexavalent form to the highly insoluble tri-valent form by reaction with hydrocarbons and other reducing agents present in the commingled wastes. Most of the chromium is removed with the solids which are generated during the waste treatment process. This aggregation should be considered permissible since the BDAT constituent (chromium) is treated in the centralized treatment facility.

6. Iron sulfide scale is either precipitated or biologically treated in centralized treatment facilities.

Iron sulfide scale is deposited within some pieces of refinery equipment during operation of the refinery process. Periodically the equipment is opened for maintenance, at which time the iron scale is removed. Some of the residue from this maintenance operation, which may exhibit the characteristic of reactivity, may be flushed into the sewer system where it is commingled with other refinery wastewaters. The mixed wastewater is not reactive. The centralized treatment system removes some of this scale as insoluble precipitate and some, most of the portion that is soluble, is removed through biological oxidation.

Dilu

SECTION: ________

COMMENTER NAME: SOCMA

COMMENTER I.D. #: LD-2-00008

PAGE # 20-21

II. The Proposed Anti-Dilution Provisions For Characteristic Wastes Are Unwarranted

EPA is proposing that impermissible dilution of a waste that exhibits the characteristic of EP toxicity be prohibited and that impermissible dilution of a waste that exhibits the characteristic of ignitability, reactivity or corrosivity be prohibited if EPA has established a treatment method as the treatment standard for that waste. This proposal is not required by the statute, is unclear as written, and should be deleted.

A. The Proposed Provisions Are Not Mandated by Congress

EPA claims it is subject to a "Congressional admonition against dilution in lieu of treatment." 54 Fed. Reg. at 48490. An earlier House version of the Hazardous and Solid Waste Amendments did authorize EPA to impose limitations on dilution and the House Report that accompanied that bill discussed the House's reasons for including this provision. See H.R. Rep. No. 198, Part I, 98th Cong., 1st Sess. 6, 38. That early provision, however, merely granted EPA the discretion to prohibit the use of dilution as a means of avoiding complying with treatment standards; it did not mandate such action.

Further, in the final version of the Hazardous and Solid Waste Amendments, the anti-dilution provision was eliminated and replaced with language from the Senate version of the bill. The Senate version does not refer to dilution at all, and no concerns about dilution were raised in the Senate. Also, the section of the Conference Report discussing the final version of the bill makes no mention of dilution. See H.R. Rep. No. 1133, 98th Cong., 2d Sess. 86-88. In light of this legislative history, the proposed anti-dilution provisions are not only not mandated, they arguably are contrary to Congressional intent.

B. The Proposal Provides Inadequate Guidance

The proposed anti-dilution provisions are confusing and sketchy. EPA's current explanation of the provisions provides little practical guidance on the precise scope of permissible dilution. The regulated community has a right to expect comprehensible, reasonably specific standards; the proposed rule provides none.

The proposed anti-dilution provisions would create tremendous confusion and uncertainty among the regulated community. Further, in the absence of clear standards, any attempt at enforcement will be arbitrary. If adopted as proposed, the provisions will inevitably require further clarification. Unfortunately, small businesses, such as many of SOCMA's members, lack the resources to seek such interpretations and will likely face the Hobson's choice of abandoning a potentially permissible and cost-effective method of waste management simply because they are unable to assess its legality.

C. The Application of Anti-Dilution Provisions To Characteristic Wastes Should Be Deleted

EPA claims that it "does not intend to address today the broad question about whether dilution should even be allowed as a means of rendering a waste nonhazardous." 54 Fed. Reg. at 48495. EPA seems to suggest that the issue of dilution of land-disposed wastes is a discrete topic that can be resolved in the context of land disposal restrictions without implicating other aspects of Subtitle C. In fact, however, the proposal is complex and far-reaching and raises a number of issues that have relevance beyond the land disposal restrictions.

For example, many facilities aggregate streams while still in the production area and currently test for hazardous waste characteristics only at the point at which the aggregated streams exit process vessels and pipes and are first "generated" under the current RCRA regulatory scheme. However, the proposal raises the question as to whether a different and earlier point of generation would apply for purposes of the dilution provisions. If generators are required to test streams at the point before aggregation, streams that may not have been considered "hazardous waste" in the past may now be subject to Subtitle C regulation.

Further, the proposal would affect all generators except those that completely segregate their hazardous waste streams. In the preamble to the California list rules, EPA stated that "aggregation of waste streams for centralized treatment is not considered to be a form of impermissible dilution." 52 Fed. Reg. 25760, 25766 (July 8, 1987). In reliance on this statement, generators have routed many waste streams to centralized treatment facilities. Under the new proposal, any generator that aggregates waste streams would, at a minimum, be required to re-examine each of its streams to determine if such aggregation constitutes permissible dilution. Performing that task alone will be difficult for many generators. Completing any necessary reconfigurations by May 1990, in addition to meeting all the other land disposal restrictions requirements, will be virtually impossible.

EPA's proposal to apply these anti-dilution provisions to characteristic wastes is particularly problematic insofar as it flies in the face of the existing regulatory program. Since 1980, dilution has been specifically recognized and endorsed by the Agency as a legitimate treatment of characteristic wastes. This premise has been a mainstay of the regulatory program and also the most significant factor distinguishing characteristic from listed wastes. EPA has offered no legitimate justification for the proposed regulatory about-face.

As noted above, there certainly is no clear Congressional intent, let alone a mandate, to support this approach. Nor can EPA say the result is required in order to achieve consistency in its regulation of characteristic and listed wastes. As discussed previously, the entire regulatory program is premised upon the differences between these categories. While EPA may ultimately decide there is merit in across-the-board "de minimis" levels for all categories of hazardous wastes, it must address that issue separately and specifically, through proper rulemaking procedures.

In any event, EPA's proposed application of the anti-dilution provisions to characteristic wastes only creates greater inconsistency in the regulation of comparable waste management practices:

(1) Plant A produces an ignitable stream which mixes with and is rendered non-hazardous by other streams in-pipe, i.e., RCRA-exempt, "totally-enclosed" treatment. This is permissible because Plant A subsequently manages the resulting waste streams in tanks prior to NPDES discharge.

(2) Plant B engages in the same activity but discharges the end-of-pipe non-hazardous waste stream into an impoundment. This is not permissible.

(3) Plant C produces a waste stream with the identical composition as Plant A's and Plant B's end-of-pipe waste stream and manages it in a surface impoundment. This is not regulated.

The results dictated by EPA's proposal simply does not allow for or take account of its nonsensical and disparate impact on existing facilities, even where the environmental concerns posed by the operations are comparable or identical.

As noted above, there simply is no Congressional mandate that EPA address dilution in the context of this rulemaking. Furthermore, EPA's application of its new "clarification" of the dilution provisions to characteristic wastes blatantly contradicts its own regulations and is inconsistent with established, effective waste management practices. For these reasons, the proposal to apply the anti-dilution to characteristic wastes should be deleted.

D. EPA Has Failed To Make Even A Preliminary Effort To Assess The Potential Significance Of Applying The Anti-Dilution Provisions To Characteristic Wastes

As is the case with the proposal to establish treatment standards for certain characteristic wastes which exceed the criteria for identifying those wastes as hazardous, EPA has failed to make even a preliminary effort to assess the potential significance of applying the anti-dilution provisions to characteristic wastes. EPA recognizes that it has no data upon which to assess the volumes of wastewaters which initially exhibit a characteristic of hazardous waste but which are diluted before entry or placement into a land disposal unit. 54 Fed. Reg. at 48472. Not surprisingly, EPA suggests that these waste streams would not be reflected in the TSDR Survey.

In its efforts to assess impact, however, EPA should be soliciting information on more than just the volumes of wastewater in surface impoundments which might be affected by the proposed regulatory scheme. Many companies treat hazardous wastes to non-hazardous levels through dilution and then subsequently send these materials to landfills or store them in waste piles. The need for alternative capacity should have been assessed for these facilities as well.

SECTION: ________

COMMENTER NAME: 4171

COMMENTER I.D. #: 1712 - 0168

PAGE # 72

Dilution

III. G. - Determining When Dilution Is Permissible;
III. H. - Other Dilution Issues

API's current understanding of the preamble discussion on impermissible dilution and legitimate aggregation for centralized treatment is that if EPA acts reasonably in resolving some of the ambiguities within that discussion, then no significant changes in industry practices would be required. However, if EPA were to resolve these ambiguities in an unreasonable manner, unnecessary major financial impacts and operational disruptions could result. These disruptions and expenditures would not result in any meaningful environmental or human health benefits.

EPA's regulations currently provide that:

> No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with Subpart D of this part, to circumvent the effective date of a prohibition in Subpart C of this part, to otherwise avoid a prohibition in Subpart C of this part, or to circumvent a land disposal prohibition imposed by RCRA section 3004. 40 C.F.R. section 268.3.

Although this prohibition on sham treatment to avoid the land disposal ban is not expressly mandated by RCRA, API believes it is consistent with sound environmental policy. API is concerned, however, that EPA's proposal to "clarify" the prohibition could be read to potentially eliminate longstanding, environmentally sound practices which may technically involve "dilution," but which are undertaken for entirely legitimate reasons independent of the land disposal ban. Unless EPA makes clear that this is not the correct reading, the proposal would go beyond even the spirit of the RCRA land disposal ban and could prove to be counterproductive.

The statute does not prohibit dilution of restricted wastes. However, as EPA points out, section 3004(m) would be gutted if generators or treaters could simply dilute restricted wastes for the purpose of meeting requisite constituent concentration levels. EPA also correctly points out that the legislative history of the 1984 RCRA amendments reflects congressional concern with that potential problem. However, nothing in the legislative history evinces an intent to outlaw dilution altogether. In fact, the legislative history which EPA cites in this proposal refers to the Administrator's authority to place "limitations" on dilution where the purpose is "to avoid restrictions on disposal". H.R. Rep. No. 198, Part I, 98th Cong., 1st Sess. 38 (1983). Other legislative history which EPA does not cite also speaks against dilution, but shows a congressional focus on dilution for purposeful evasion of treatment standards, particularly where the treatment standard is based on concentrations of hazardous constituents, and a congressional recognition that aggregation of wastes upstream and closely connected to a manufacturing process is often entirely legitimate.[37] See id. at 34-35; S. Rep. No. 98-284, 98th Cong., 1st Sess. 17 (1983).

The preamble to EPA's proposal suggests that the mixing of a prohibited waste with other waste (whether a restricted waste or not) such that any dilution of the prohibited waste occurs would be impermissible dilution, unless there is "some actual reduction in the toxicity or mobility of at least one BDAT constituent in each prohibited waste ...." 54 Fed. Reg. 48494. As shown below, such a proposal would sweep so broadly and threaten several legitimate waste management practices.

Ironically, the preamble suggests that in the case of a characteristic waste, although the act of dilution could be considered illegal if it does not meet the proposed criteria, placement of the waste in a non-Subtitle C unit would be perfectly lawful. API supports the position that a formerly characteristically hazardous waste which no longer exhibits a characteristic need not be managed as hazardous, and that a unit receiving such a waste is not considered a hazardous waste management unit, but that would be of little consolation if dilution of characteristic wastes, however incidental to the land disposal ban, is prohibited in the first instance.

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[37] The House Report actually disavows any intent to prohibit dilution of waste which "occurs as a normal part of a manufacturing process." Because Congress clearly intended that materials still within the manufacturing process not be considered wastes at all (see American Mining Congress v. EPA, 824 F.2d at 1190 (and legislative history cited therein)), this reference must have been to normal aggregation practices upstream of final waste disposition, but technically outside of the manufacturing process itself. We note that nothing in EPA's proposal suggests any intent to amend the definition of solid waste, and these comments assume that EPA'S proposal involves no such intent.

Manufacturers often aggregate wastes for centralized treatment. The practice of aggregation (e.g., in refinery wastewater treatment systems) is long-standing and is based on the need for efficiency in the management of wastes. EPA has long recognized the legitimacy of this practice. See 52 Fed. Reg. 25766 (1987) ("EPA reiterates that aggregation of waste streams for centralized treatment is not considered to be a form of impermissible dilution"); 51 Fed. Reg. 40623 (1986) ("EPA does not intend to disrupt or alter the normal and customary practices of properly operated treatment facilities. Treatment facilities can mix compatible wastes in order to treat at capacity levels.")

For example, petroleum refineries and other petroleum facilities collect wastewaters, some of which may be characteristically hazardous, for centralized treatment. Technically an element of dilution may exist in these wastewater systems. However, they are not designed to evade the land disposal ban. These operational practices improve overall wastewater treatment efficiency and effectively treat any characteristic waste streams.[38]

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[38] The specific streams which are handled through the centralized treatment system vary with each refinery -- no two refineries are identical. However, we note that at many refineries the "wastewater" streams upstream of the oil/water

(Footnote continued)

As another example, in order to meet the land disposal ban treatment standards as efficiently as possible, a petroleum refiner may combine oil/water separator sludge with DAF float and then treat the mixture by incineration. The two wastes are substantially similar in form and constituent make-up and are subject to nearly identical treatment standards. Nonetheless, a given batch of DAF float may have slightly lower concentrations of some hazardous constituents than a given batch of separator sludge, so the mixing of the two wastes would dilute the concentrations in the separator sludge, but would not remove or immobilize any hazardous constituents. This practice apparently could be deemed illegal under EPA's proposal, even though there is no intent to evade the treatment standards and the purpose is simply to make the ultimate treatment process more efficient and no less effective.

Moreover, EPA's proposal could be read to threaten express regulatory exemptions which date nearly to the beginning of EPA's implementation of RCRA. In 1981, EPA struggled with the sometimes absurd results of the "mixture rule," another rule designed to restrict dilution of hazardous wastes. It recognized that efficiency in treatment coupled with de minimis

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[38] (continued)
separator and oil/water sludge dewatering equipment are not solid wastes at all, because they bear hydrocarbons which are destined for recovery and reinsertion to the refining process. See AMC v. EPA, 824 F.2d at 1188; API Comments on Proposed Solid Waste Definition at 2-7, 14-15.

environmental threats justified exceptions to the "mixture" rule.[39] The Agency removed the presumption of hazardousness from mixtures of small quantities of listed solvents, discarded commercial chemical products, lab wastes, and heat exchanger bundle cleaning sludge, with large volumes of non-hazardous wastewater, where the mixture was destined for the treatment in a plant's wastewater treatment system. 40 CFR section 261.3(a)(2)(iv). EPA said:

> Today's amendment is designed to meet these purposes by limiting the mixture rule so that, with respect to wastewater mixtures, it does not apply to nonhazardous wastewater that receive small quantities of listed hazardous wastes which are not principal wastewater streams, and which are reasonably and efficiently managed by being discharged into a plant's wastewater treatment system. EPA believes that the small quantities of listed hazardous wastes allowed by today's amendment in exempted wastewater mixtures will be present in such low concentrations that they do not pose a substantial hazard to human health or the environment, and, furthermore, often will be treated in the plant's wastewater treatment system. [46 Fed. Reg. 56584 (1981).]

EPA's present proposal potentially could be interpreted to undermine these well thought-out, environmentally justified exemptions. Yet nothing in the 1984 RCRA amendments or their legislative history dictates this result. In fact, Congress' reference to not prohibiting upstream aggregation of wastes where the purpose is not to evade the land disposal ban would seem to directly endorse EPA's preservation of these exemptions.

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[39] Legal deficiencies in the mixture rule have not yet been fully addressed (see Shell Oil Co. v. EPA, No. 80-1532 (D.C. Cir.) (pending), but the exceptions to the rule show EPA's recognition of problems associated with absolute prohibitions on dilution.

Additionally, in the case of certain of the ignitable, corrosive, and reactive characteristic wastes, safety can be an important factor arguing in favor of dilution. Risks to plant personnel and others may be increased in many cases if it is necessary to store or transport such wastes prior to more complicated treatment, instead of diluting them in the facilities' wastewater treatment systems and removing the hazardous characteristic. EPA's proposal does not account for this factor. EPA does seem to recognize that some forms of what is technically dilution either constitute treatment or render a waste more amenable to treatment. Yet one reading of EPA's proposal would be that such practices could be prohibited if they do not result in removal or reduction in mobility of a hazardous constituent, even if the waste itself is hazardous for reasons other than the presence of hazardous constituents (e.g., ignitable). See 54 Fed. Reg. 48422. Although, as discussed above, API believes any rigid rule requiring removal or immobilization of a "constituent" in all cases would be unreasonable and counterproductive, EPA should at least clarify that the term "constituent" includes the characteristics of corrosivity, reactivity, and ignitability or use an approach term to cover those characteristics other than "constituent."

Elsewhere in the proposal, EPA suggests that to avoid classification as impermissible dilution, in many cases reductions in toxicity or mobility must be achieved for more than one constituent, but does not specify any specific criteria for what EPA would consider to be permissible in such cases. This open-ended proposal would place no limit on the extent of analysis which must be completed to assure compliance. Indeed, the regulated community would be unable to determine whether it is in compliance with the land disposal ban regulations. EPA should avoid the confusion which would result from such an ambiguous, ill-defined requirement.

In sum, EPA should avoid building unreasonable rigidity into the land disposal ban program, whether intentionally or inadvertently. EPA already has a rule which expressly prohibits the illegitimate, purposeful evasion of treatment standards by dilution. That rule is reasonable, consistent with the statute and can and should be enforced. If EPA attempts to avoid any possible abuse of its rules by flatly prohibiting dilution, even legitimate dilution, it could throw "the baby out with the bathwater" and potentially bring an end to a multitude of environmentally sound practices.

Moreover, a major reversal in EPA's position on legitimate aggregation at this time could have immediate drastic impacts c industry. Operators of petroleum facilities have not anticipated new regulations which would restrict aggregation for centralized treatment. Imposing any such restrictions at this late date in the land disposal ban program would result in severe disruptions, as equipment to collect wastes for separate treatment could not be designed, acquired or put in place in time to meet the land disposal prohibition effective dates, even if a two-year nationwide variance were granted for certain wastes due to the lack of treatment capacity.

If EPA truly perceives a potential loophole in its program, API recommends that it not attempt to close the perceived loophole with a new sweeping prohibition. A far better solution would be to promulgate factors which could be applied to a particular case to determine whether an act of aggregation/dilution is legitimate or undertaken solely to avoid the treatment standards. Such factors might include:

(1) whether the practice pre-dates the land disposal ban program;
(2) the degree to which efficiency in waste management is promoted;
(3) how far upstream in the waste management process the mixing takes place;
(4) whether all components of the mixture require treatment and are destined for further treatment;
(5) whether one component of the mixture contributes to treatment of the other;
(6) the quantities of the wastes being mixed; and
(7) whether following final treatment, mass loadings of pollutants are reduced.

No single factor should be controlling, any more than the mere act of dilution should be controlling. Only by preserving appropriate flexibility will EPA be able to achieve the goals for the 1984 amendments while avoiding the elimination of practices which make both environmental and practical sense.

DILUTION

SECTION: ____________

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PAGE # 3-

2) Dilution Prohibition of Characteristic Wastes - The Agency proposes that the dilution of characteristic wastes to meet BDAT standards is prohibited. While UCC agrees that the intentional dilution of wastes for the purpose of avoiding hazardous waste management or disposal should be prohibited, the Agency must not extend this dilution prohibition to the normal comingling and aggregation of wastes that occurs for the purpose of making the wastes amenable to further treatment. For example, for over 20 years facilities have designed their wastewater collection and treatment systems to meet the requirements of the Clean Water Act. These designs have relied on the significant technical and economic benefits of comingling and aggregating various wastes into a common wastewater stream that is

amenable to biological treatment. Caustic streams from processes enter the process sewer collection system and are neutralized by ac streams that are discharged by other processes in the manufacturing facility. The end result is a stream that has a pH that is amenable to biological treatment. Under the proposed dilution prohibition, these streams would have to be neutralized at the point of generation. For example, one UCC facility would have to neutralize over 225 million pounds of wastewater per year, at source, inste being allowed to take advantage of the neutralization that occurs the process sewer as a result of the natural aggregation and co-mingling of the acid and base streams. Not only would this be expensive (hundreds of small neutralization package units would have to be designed and installed), but the amount of sludge to be dispos in landfills (if neutralization reagents were used that formed insoluble salts) or the amount of inorganic salts that would be discharged (if neutralization reagents were used that formed soluble salts) to the receiving waters of the United States would increase significantly. Clearly, the Agency does not want to impact another media as a result of a RCRA regulation. This at source treatment o hundreds of streams is in direct conflict with the Agency's pollutio prevention policy because instead of minimizing the amount of materials discharged to the environment, this rule would have the opposite effect.

The net effect of this dilution prohibition would be large scal revamping of Wastewater Treatment Facilities that are already compliance with NPDES requirements. This would be caused by facilities having to remove many ignitable streams, at-source, and sending the streams to an on-site boiler or transported off-site to an incinerator. Unless the facilities seek altern "food" sources to sustain their biological systems, the facilities would have to revamp their existing systems or inst alternate technology. For example, one UCC facility relies anaerobic treatment. To reduce nitrate or nitrite to gase nitrogen, organic carbon sources such as acetic acid, ace ethanol, methanol or sugar would have to replace the ignitable waste streams to act as a hydrogen donor in the anaerobic process. Other UCC facilities would have to seek alternate "food" sources to replace ignitable streams in order to susta their biological systems. If not, these facilities would have revamp their existing systems or install alternate treatme systems. To remove organic waste streams for alternate trea when they can be treated in an existing system, only to add carbon sources with similar volatility is ineffective, cost prohibitive and serves no useful purpose. This revamping woul have to occur prior to May 8, 1990 to comply with these propos rules and would result in significant expenditures of capital human resources for no net improvement to the environment. Al the revamping would, in many cases, require entirely new treatment processes and would require a minimum of 2 to 3 yea to complete. Thus, the May 8, 1990 date is impractical and impossible to meet.

UCC believes that co-mingling and aggregation of wastewaters process sewer is permissible dilution. If the Agency continues to cling to its definition of permissible dilution (i.e. actua reduction (removal or chemical change) in the toxicity or mobility of at least one BDAT constituent in each prohibited waste) then UCC would argue that the natural comingling or aggregation of characteristic hazardous wastes in a process se constitutes permissible dilution because it is preparing t resulting mixture to be treated biologically and will re the removal and chemical change of BDAT constituents in each affected stream. It should make no difference whether this mixing is done in the process sewer or in an equalization tank prior to the land disposal unit.

This dilution prohibition will also significantly increase amount of wastes that will need to be incinerated or burned on-site boilers. As the proposal states, the ignitable hazard wastes would have to be treated at the point of generation. Th would mean that hundreds of small process streams within a production unit must be collected and either sent to an incinerator or burned in a boiler. This again would not only b expensive (collection facilities, storage tanks and disposal expense) but would significantly increase the burden on an already scarce commodity-incineration capacity. For exam one UCC facility alone, an additional 130 million pounds per of waste (most of which is water) would have to be pulled from

[Dilution]

the process sewer system and burned in on-site boilers or off-site incinerators. A second facility would have to re-ro approximately 2 million pounds per year of waste to their boi or to an incinerator. The end result would be an increase in emissions to the air from these boiler and incineration facilities. For example, UCC has a chlorosilane waste stream that is treated by comingling it with other waste streams in process sewer and sending the entire stream to the waste treatment facility. The secondary air emissions from this treatment scheme are minimal. The dilution prohibition would require this stream to be burned in a boiler or incinerator thereby causing the emission of fine silicon dioxide particulates. This would require an expensive, specialized control device to control an emission that should never have generated in the first place.

If the Agency truly intends to disallow normal comingling or aggregation for the purpose of making the wastes amenable to further treatment, then it must consider a national capacity variance for ignitable wastewaters. The Agency has establish national capacity variance for nonwastewater ignitable wastes to the lack of adequate incineration capacity. The same arguement holds for ignitable wastewaters. In fact, the of ignitable wastewaters to be sent to boilers or incinerator may dwarf the potential nonwastewater ignitable wastes for wh

DILUTION

the national capacity variance was established. As previously stated, one UCC facility alone would need to burn an additiona 130 million pounds of ignitable wastewater per year.

Secondary emission concerns of the Agency are Unwarranted. The Agency also stated that the reason for prohibiting dilution of these characteristic ignitable wastes was to minimize air emissions from wastewater treatment facilities. UCC belie this concern by the Agency is unwarranted because of their continued use of overestimated emissions. For example, CMA demonstrated that benzene emissions from waste operations were drastically overestimated by EPA in the recently proposed Benz NESHAP rule. Specific data from one UCC facility also indicat that 70 percent of the influent benzene to a large impoundment was biodegraded while only 22 percent was lost to the air. Agency models for this same facility estimated 70 to 90 percen of the benzene was lost to the air. A second problem with this Agency concern is that the secondary air emission issue does n account for the solubility and strippability of various ignita wastes. For example, one UCC facility sends an ignitable methanol laden stream into the process sewer. Upon co-minglin the stream loses its characteristic of ignitability. The methanol, which is very soluble in water, does not strip air at the surface impoundment, but is biodegraded. UCC encourages the Agency to deal with this secondary air emission

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[Dilution)

SECTION:

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PAGE # [illegible]

> issue in a separate rulemaking. In fact, based on the recent regulatory agenda, a proposed rule is due out that will address air emissions from TSD tanks and surface impoundments.

Therefore, UCC urges the Agency to allow characteristic hazardous wastes to comingle and aggregate in the confines of the process sewer for the purposes of making wastes amenable to biological treatment. This, combined with the establishment of BDAT treatment standards for characteristic wastes at their listing level, would allow facilities to comply with LDR limits and meet their NPDES permit limits. All of this would occur with minimal impact on waste generation and emissions to other media while preserving valuable incineration capacity.

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COMMENTER I.D. #: D12-77

PAGE # 2

Dilution

The Agency has proposed a revised interpretation of the current dilution provisions to the effect that any dilution involving hazardous waste destined for land disposal must result in substantial reduction in the toxicity or mobility of at least one BDAT constituent in each waste subjected to dilution, or the dilution would be considered impermissible. See 54 Fed. Reg. 48,494 (Nov. 22, 1989). The proposed interpretation should not be adopted. It is unnecessary to ensure that impermissible dilution does not occur, it exceeds the Congressional mandate in this regard, and it would significantly interfere with legitimate, historical aggregation practices.

The dilution prohibitions are not based on an express statutory provision, but on a Congressional statement in the relevant legislative history. The statement purports to authorize the Agency to impose limitations "on the use of waste dilution to avoid disposal restrictions." H.R. Rep. No. 198, 98th Cong., 1st Sess. 38 (1983); see also 54 Fed. Reg. 48,494 (Nov. 22, 1989). By their own terms, these provisions do not purport to authorize the Agency to impose limitations on the use of all dilution. Otherwise, Congress would not have qualified its reference to dilution with the phrase "to avoid disposal restrictions." Because the Congressional statement explicitly refers to dilution designed or intended to avoid disposal restrictions, the concept of avoidance or circumvention of disposal restrictions must be an integral part of the Agency's dilution prohibitions.

In fact, the current dilution provisions are based on just that concept. The provisions explicitly refer to dilution that is used as a substitute for adequate treatment, or to avoid or circumvent relevant prohibitions. See 40 C.F.R. § 268.3 (1988). And the Agency has said before that it is "[a]rtificial aggregation points designed to avoid a prohibition" that would not be considered legitimate. 52 Fed. Reg. 25,766 (July 8, 1987). The clear implication ever since 40 C.F.R. § 268.3 was first adopted, therefore, has been that dilution that is not designed to avoid or circumvent disposal restrictions is not necessarily impermissible. The proposed

SECTION: ________

COMMENTER NAME: Sterling Chem

COMMENTER I.D. #: LD12-147

PAGE # 2

interpretation would ignore this circumvention concept, the very cornerstone of the Congressional concern for improper dilution, and would prohibit even dilution that is not designed to circumvent a disposal restriction, so long as it does not meet the proposed "reduction" requirement.

The "reduction" concept is wrong because it is a wolf in sheep's clothing. Under the guise of prohibiting impermissible dilution for land disposal purposes, the Agency is effectively reaching back into the generator's internal waste conveyance process and requiring the generator to affirmatively conduct an activity that could be construed to be classic hazardous waste treatment (change in character or composition to render waste less hazardous). See 40 C.F.R. § 260.10 (1988)(definition of "treatment"). In many circumstances, this requirement may force the generator to obtain a Part B permit for the otherwise incidental effects of activities that have been in place for years. Apart from the fact that the land disposal restrictions would be an improper vehicle by which to achieve this result, questions of administrative procedure, timing, and interim status loom prominently on the horizon. In addition, because the Agency has not prescribed "dilution with reduction" as a specified BDAT technology, even where the required reduction in itself may be significant it is guaranteed from the start not to be sufficient.

To the extent the Agency feels compelled to reinterpret the dilution provisions, it should address the concept of "circumvention," and not the concept of "reduction." A revised interpretation narrowly addressed to the issue of circumvention would support the Agency's consistent position, since the adoption of the first land disposal restrictions, that aggregation of waste streams for centralized treatment is a form of mixing that facilitates treatment, and is not considered to be impermissible dilution. See 52 Fed. Reg. 25,766, col. 2 (July 8, 1987). This kind of a proposal is also less likely to unreasonably interfere with or discourage legitimate aggregation practices, which again has been the Agency's stated goal since 1987. See id.

Sterling Chemicals suggests that, in lieu of the proposed interpretation, the Agency adopt dilution provisions that would squarely recognize that aggregation practices that were in effect long before any dilution restrictions were promul-

SECTION: ______

COMMENTER NAME: Sterling Chem

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PAGE # 4

gated clearly could not and were not designed or intended to avoid disposal restrictions. They were necessarily adopted for legitimate aggregation reasons and should enjoy at least a regulatory presumption that they constitute permissible dilution.

The dilution provisions thus should provide that historical aggregation practices are permissible if they were in existence prior to the date of the current proposal. At the same time, the Agency may wish to adopt provisions similar to those in 40 C.F.R. § 261.2(f) to make clear that, as to aggregation practices implemented since the date of the proposal, the burden is on the generator to establish that the dilution practice in question was not designed to avoid a promulgated disposal restriction. This approach would better address the Congressional concern for impermissible dilution.

If the proposed interpretation of the dilution provisions is adopted, Sterling Chemicals would be required to implement significant changes in existing waste management practices. Sterling Chemicals currently estimates that approximately 15 waste streams, amounting to 70 million gallons per year, would be affected. Moreover, the feasible treatment alternatives would be reduced primarily to incineration of wastewaters that are normally managed in non-hazardous biological treatment units. Incineration capacity for wastewaters that contain low levels of organics would be severely limited, if it is available at all.

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PAGE # 6

EPA should withdraw its proposed expansion of the dilution rule.

In the proposed Third Third rulemaking, the Agency would require that aggregation for centralized treatment result in actual reduction in the toxicity or mobility of at least one BDAT-list constituent in each prohibited waste that is centrally treated. This proposed expansion of the dilution rule could significantly reduce the number of treatment units that qualify as "legitimate" and make the only reliable means available to a facility to comply with a rule effective upon promulgation on May 8, 1990 will be to install equipment to meet the uncertain proposed rule and risk not being in compliance with the final rule. It will also be impossible to procure permits in time and given all the uncertainties, nearly impossible to have funding

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PAGE # 7

approved by company management. In many cases, operators will have to run the risk of being found out of compliance.

The Agency in a number of rulemakings has attempted to define and clarify the dilution prohibition. Under existing rules, aggregation of wastes is impermissible if it is done to avoid prohibitions or to achieve a treatment level (54 FR 40592, 53 FR 28124). EPA has specified that aggregation of waste streams to facilitate treatment is permissible (52 FR 22356, 52 FR 25768) and that the Agency does not intend to prohibit dilution which is necessary to facilitate treatment (51 FR 40592, 53 FR 28124). Although EPA is calling this change an amplification of its interpretations, it has much broader impact. This approach will create serious administrative problems for the Agency and dislocation among industry.

EPA should withdraw its proposed expansion of the dilution rule until its full impact can be ascertained. For deepwell operators, the dilution rule change is particularly onerous because most industries aggregate their wastewater for legitimate treatment prior to injection and each facility will need to reassess their compliance in light of the dilution reinterpretation. "Legitimate" centralized treatment should not be based solely on reducing a BDAT constituent. Generators

SECTION: ________

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PAGE # ________

should only have to show treatment is "legitimate", and aggregation of the waste streams facilitated treatment.

2. **Any interpretation of the dilution rule should not be made retroactive to California list wastes.**

If the Agency proceeds with its proposed expansion of the dilution rule, the new interpretation should only be applicable to wastes that are being addressed for the first time in this proposal. The Agency has already articulated a specific rationale for wastes potentially subject to the California list prohibitions and other land ban wastes. Operators who have relied on this rationale should not be forced into procedural default. California list rule clearly recognizes aggregation that facilitates treatment and gives examples of such cases (52 FR 25765). The effect of EPA amplifying its interpretation of permissible dilution at this time creates administrative chaos and dislocations among industry if the rule is retroactive to the California list prohibitions. Since the California list prohibitions were just that - prohibitions - and did not set BDAT, any changes in the dilution rule should not be applicable to the California list prohibitions.

17.3 Treatment Standards for Characteristic Wastes

EPA received a variety of comments regarding the proposed treatment standards for characteristic wastes. Five of these (the Association of State and Territorial Solid Waste Management Officials (ASTSWMO; 157), American Petroleum Institute (API; 168), the Petroleum Marketers Association of America (PMAA; 205), Browning Ferris (BFI; 214), and Allied Signal (267)) raised specific capacity concerns regarding the proposed below-characteristic standards.

Summary:

Two commenters (Allied Signal (267) and BFI (214)) stated that if §3004(m) is interpreted as applying to wastes that had been characteristic prior to treatment, then those wastes could only be disposed of in a land disposal facility that meets the requirements of Subtitle C. EPA may further determine that a waste that had been a characteristic waste but is no longer characteristically hazardous, can be land disposed only in a facility that meets all the Subtitle C requirements. the commenters stated that such an action by the Agency would be absurd because it would fill the capacity of RCRA land disposal facilities with wastes that had been hazardous but which are no longer hazardous and would be an enormous diversion of a scarce and valuable resource. These commenters stated that EPA has not made any realistic assessment of the quantities of wastes, previously outside the Subtitle C system, that would be brought within the Subtitle C program by this rule. These wastes would affect all capacity assurance planning done to date. Not only would the allocation of scarce hazardous waste treatment capacity be environmentally irresponsible and result in the needless expenditure of pollution control funds without any commensurate environmental benefits, but EPA has not adequately addressed the regulatory and enforcement mechanisms that would be needed to police the compliance status of these wastes.

Response:

Under the point of generation approach outlined in the proposed rule, formerly characteristic wastes would not be required to be disposed of in RCRA Subtitle C facilities. Once a characteristic waste is no longer hazardous, it could be disposed in a Subtitle D facility; these wastes, however, would remain subject to the requirements of 40 CFR Part 268. This aspect of the rule has not changed. EPA disagrees with the commenters reading of RCRA Section 3304(m)(2). A careful reading of this section reveals that Congress did not expect the residues of treatment to be hazardous wastes themselves. On the contrary, Congress clearly expected that treatment residues would not exhibit hazardous characteristics as they are exempt from further restrictions from land disposal. The language of Section 3004(m)(2), ". . . such waste or residue thereof shall not be subject to any prohibition promulgated under subsection (d), (e), (f), or (g) and may be disposed of in a land disposal facility which meets the requirements of this subtitle," merely provides that the treatment residue may be disposed of in a Subtitle C facility; Section 3004(m)(2) does not preclude such disposal, however, nor does it require it.

The commenters also stated that EPA did not assess the quantity of wastes that would be brought into the Subtitle C system. EPA believes these commenters are referring primarily to characteristic wastes affected by the proposed dilution prohibition as well as the below characteristic treatment standards. The final rule, however, revises both of these areas, which should alleviate the concerns raised by these commenters. First, the final dilution prohibition interpretation (discussed in Section 17.2 of this Chapter) allows the dilution of characteristic wastes in several circumstances. Second, the final rule standards for characteristic wastes are either at or above characteristic levels or the treatment standard is a method of treatment.

Summary:

Four commenters (American Petroleum Institute (API; 168), the Petroleum Marketers Association of America (PMAA; 205), the Association of State and Territorial Solid Waste Management Officials (ASTSWMO; 157), the American Petroleum Institute (API; 168)) specifically mentioned the capacity implications of the proposed treatment to below characteristic levels.

API (168) expressed concern that any implementation or enforcement problems created by EPA's proposal could be exacerbated by the expected promulgation of a revised organic toxicity characteristic. When that rule is promulgated, it is likely to substantially expand the universe of characteristically hazardous wastes. When land disposal restrictions for those newly identified wastes are promulgated, that rule will place an enormous new burden on already strained treatment capacity. Thus, EPA should avoid the needless and wasteful use of limited treatment resources implied by the proposal to require treatment below characteristic levels, especially in light of the upcoming TC rule.

PMAA (205) expressed concern about the combined impact of the TC Rule and EPA's present (Third Third) proposal on the Underground Storage Tank (UST) program. The proposed rule would require soils and wastewaters to be extensively treated prior to disposal and to be handled and stored in accord with any regulations promulgated under RCRA concerning benzene. This treatment would increase the costs of petroleum UST upgrades and site remediation and increase the time period for action by requiring permits for treatment and disposal as well as testing for toxic constituents. Additionally, the TC Rule will substantially increase the volume of wastes subject to RCRA and may overburden present disposal facilities. EPA's current proposal for treatment to below characteristic levels will exacerbate this problem. The commenter stated that the importance of the UST program, the wide universe of tanks affected by that rulemaking, and the efforts of the industry to comply with its provisions should encourage EPA to carefully examine the impact of the proposed rule on the UST program and, at least initially, to adopt the least intrusive regulations.

ASTSWMO (157) expressed concern about the interaction between the TCLP and the proposed establishment of treatment standards below characteristic levels. It stated that the "new toxicity characteristic test may have an impact on the characteristic levels. The Agency should closely coordinate issuance of these rules to avoid confusing the regulated community and environmental regulatory staff at all levels of government."

API (168) stated that EPA's proposal, contrary to Congress' intent to encourage resource recovery (53 FR 31159; H.R. Number 198, 98th Congress, 1st Session 31 [1983]), could require additional treatment rather than recycling of materials that no longer exhibit a characteristic.

Response:

All of these comments addressed the establishment of treatment standards below characteristic levels for characteristic wastes. EPA believes the concerns raised by these commenters will be alleviated by the characteristic waste treatment standards in the final rule. Specifically, treatment standards for characteristic wastes in the final rule are either: (1) at or above characteristic levels, or (2) methods of treatment.

Comments regarding the capacity implications of the Toxicity Characteristic (TC) Rule are addressed under the various documents supporting that rule. In regard to the PMAA (205) comments on the UST program implications, EPA believes that the revised characteristic waste treatment standards eliminate PMAA's concern that the establishment of treatment standards below characteristic levels will exacerbate existing compliance problems.

Comments:

Capacity comments related to the establishment of treatment standards *below* characteristic levels for characteristic wastes are presented in the following order:

- The Association of State and Territorial Solid Waste Management Officials (ASTSWMO; 157: p. 2);
- The American Petroleum Institute (API; 168; p. 69);
- The Petroleum Marketers Association of America (PMAA; 205: pp. 2-4);
- Browning Ferris Industries (BFI; 214: p. 13); and
- Allied Signal (267: pp. 12-13).

Association of State and Territorial Solid Waste Management Officials
444 North Capitol Street, N.W. • Washington, D.C. 20001 • 202-624-5828

January 8, 1990

EPA RCRA Docket
OS-305
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

RE: Docket Number F-89-LD12-FFFFF
Comments on Land Disposal Restrictions for Third Scheduled Wastes

Dear Sirs:

The Land Disposal Restrictions (LDR) Task Force of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) has reviewed the subject rule (54 FR 48372, November 22, 1989) and issues related to the current status of implementation of the land disposal restrictions program. In the process of our review, we have identified the following issues and concerns which we believe deserve the U.S. Environmental Protection Agency's (USEPA) careful attention, and respectfully submit the following comments:

1. Treatment Below the Characteristic Level

Setting treatment standards for characteristic wastes below the characteristic level has a number of legal, policy and regulatory impacts which we do not believe were adequately explored by USEPA. For that reason, ASTSWMO's Land Disposal Restrictions Task Force recommends that the Agency adopt a rule which does not require treatment below characteristic levels as an interim approach pending full exploration of the impact of setting standards below the characteristic level and development of mitigation measures, if appropriate. The Agency should consider revision of its characteristic levels for any constituents which it asserts are not always protective of public health.

In its evaluation of the impact of setting standards below the characteristic level, USEPA should address at least the following issues:

ASTSWMO LD12-00157

- Impact on Subtitle D Sites - Subtitle D sites are not regulated under Subtitle C, therefore they have not been a part of the RCRA hazardous wastes "cradle to grave" system, and have no requirements for waste monitoring, manifesting, reporting, etc. Subtitle D site operators will be very reluctant to accept these responsibilities and therefore may reject waste treated far below "hazardous" levels only because of the administrative burden and to avoid the perception of being a "hazardous" waste site. Some Subtitle D sites may even accept wastes illegally, unless their requirements are clearly spelled out.

- Increase in Subtitle C Universe and Work Load - As treated restricted waste will be sent to Subtitle D sites with required certifications, Subtitle C implementing staff will face an increased regulated universe of sites receiving wastes. Additional resources will be required to address this newly regulated universe.

- Surveillance and Tracking - As simple testing of unknown wastes will not be sufficient to determine whether a waste is or is not outside Subtitle C, many additional investigations of wastes' origins will be necessary. It will be very difficult to distinguish between wastes generated with concentrations slightly below the characteristic level and those which were originally hazardous but were inadequately treated to the same concentration level, which may be above the treatment standard.

- Inequity - Wastes with concentrations slightly below the characteristic level will not be regulated at all, while those treated significantly below will be required to comply with extensive certification requirements and consequently may be avoided by Subtitle D site operators in spite of suitability for those sites.

- Impact of TCLP - The new toxicity characteristic test may have an impact on the characteristic levels. USEPA should closely coordinate issuance of these rules to avoid confusion of the regulated community and of environmental regulatory staff at all levels of government.

2. Multi-Source Leachates

The ASTSWMO LDR Task Force feels that multi-source leachate is a very significant element in not only the RCRA hazardous waste management program but in CERCLA and other State managed cleanup programs as well. State program managers will not only have to deal with active operating RCRA sites, where wastes may be reasonably well known, but also with many closed or inactive sites where the wastes which those sites accepted are not well identified.

ASTSWMO LDR-00157

For instance, a closed "municipal" landfill which is subject to remedial action under CERCLA may have accepted significant quantities of hazardous waste, but due to a lack of recordkeeping the operators do not know which wastes they accepted, or how much of those wastes. In this instance application of the waste code principle would not be practical or even possible. Therefore, because of problems like this and other similar situations, the Task Force supports establishing one set of treatment standards for multi-source leachate and treatment residues. Establishing one set of standards would be more environmentally sound and would also be administratively workable -- something which the waste code principle has not been to date. 21

The Task Force does have some concerns, however, regarding the implementation and enforcement of this proposed option. A reading of the preamble and proposed rule suggests that USEPA assumes that the generator of such wastes will have a proper waste analysis plan which will be reviewed and approved as part of some permit process by a permit writer. In practice, many sources of this leachate will be unregulated (e.g., sites subject to CERCLA) or unpermitted (e.g., closed interim status RCRA facilities, voluntary cleanups, 90-day accumulation facilities, etc.), and the leachate will not be managed on-site. Therefore it will be necessary for the Part B permits to be modified (i.e., at the receiving facility) to insure that the waste has been properly identified and is being properly sampled and analyzed before and after treatment.

It is our understanding, from the preamble, that the permit writer would have the discretion of specifying not only the frequency of analysis of such wastes, but the individual constituents as well. This being the case, it would not be necessary for USFPA to develop a narrower definition to deal with leachate derived exclusively from wastes within a single treatability group as suggested at 54 FR 48462. For example, if the leachate were only derived from wastes in the K048-052 series, the permit writer could specify only those related constituents in the permit, if he so chooses. The Task Force also suggests that permit changes to incorporate these wastes and their analyses be Class I modifications subject to State or USEPA prior approval.

For principally administrative reasons, we suggest that one waste code be applied to multi-source leachates. We do not feel that anything would be lost by a single code system, as many of the proper waste codes would be unknown in many cases. Even when certain waste codes are known, much of the original character of the waste will have changed to the point where the waste is indistinguishable in the leachate, due to mixing, dilution, chemical reaction in the landfill, etc. Finally, without the creation of one set of standards and a new waste code, some will argue that due to the presence in the landfill of a waste which is now prohibited from landfilling, and required to be recycled, the entire leachate would have to be recycled.

ASTSWMO LD12-00157

3. Treatment Standards for Lab Packs

We strongly support USEPA's proposed standards for lab packs. The proposed treatment methods will allow some flexibility in the treatment of lab packs without lowering the treatment criteria. The statute is not compromised by this approach, but the safety in handling of the lab packs should be increased by some of the treatment facilities not having to manage individual containers in those lab packs. Also the analytical cost should be lowered sinc owners/operators will not be required to analyze the treatmer residue for compliance with individual treatment standards. USEP should further expand this to all such forms of lab packs where the individual containers of wastes have similar characteristics.

4. "De Minimis" Rule

At 54 FR 48382 of the preamble, USEPA discusses the regulatory status of treatment residues identified as "derived from" wastes. As part of that discussion, USEPA mentions that they are investigating the development of "de minimis" levels for certain hazardous wastes. The Task Force supports USEPA's activities in this area and encourages the identification of "de minimis" levels.

Although we recognize that any such proposal will be subject to extensive review and comment, we believe that the development of such levels will be a reasonable mechanism to address the issues associated with treatment disincentives and the management of low risk treatment residues.

5. Storage Requirements

At 54 FR 48496 of the preamble, USEPA requests comment on alternative approaches for prohibiting storage. We believe that there are circumstances where a stringent interpretation of the current storage prohibitions becomes unreasonable. The examples identified in the preamble, where storage is necessary to achieve further treatment or to accommodate treatment process limitations, are reasonable circumstances where additional storage should be allowed, but we suggest that USEPA expand 268.50 to more clearly identify acceptable reasons for storage. The regulations should continue to allow storage "for the purpose of accumulating such quantities as necessary to facilitate proper recovery ...", but should recognize other circumstances where storage may be justified.

The regulations should also clarify whether the one year limit is renewed when wastes are transferred from a generator to a treatment facility, or from facility to facility. It is not clear whether each owner or operator may store the waste for one year or whether the total time of storage may only be one year.

6. LDR Requirements for Newly Identified and Listed Wastes in Authorized States

RCRA requires USEPA to make a land disposal prohibition determination for any newly identified or listed waste within six months of the date of identification or listing. USEPA should provide more information on how the LDR standards apply in authorized (non-HSWA) States when that State has not yet added that waste to its hazardous waste regulatory program. Are these wastes subject to the LDR requirement prior to the authorized State adding the newly identified or listed waste? For newly listed wastes which are regulated in one State, but are sent to another State where they have not yet been listed, how are the LDR rules applied?

③ The Task Force recommends that USEPA develop an alternative schedule for the newly identified and listed waste, but provide for reasonable flexibility in this schedule to allow authorized States to add the wastes. Also, the land disposal prohibition determination schedule should be extended to allow USEPA sufficient time to complete its comment period on the new waste(s) proposed standard and allow authorized States time to add the new waste(s) to their individual programs.

7. Cleanup Actions and LDR

In part V-E of the proposed rule, the Agency discusses the impact of LDR on CERCLA cleanups and alternative options regarding how to comply or legally avoid compliance with LDR. This discussion does not include an additional avoidance option available to a CERCLA site manager. Specifically, it does not mention the fact that Regional Administrators have the ability to declare compliance with an LDR requirement as "inappropriate or irrelevant". This is an important option, which provides needed flexibility, since the application of LDRs to clean-ups are otherwise rather rigid and, in our opinion, justifiably recognizes the site-specific complexities of many cleanup situations.

However, this flexibility is not available to non-Superfund cleanups such as those funded by States, local governments, responsible parties or those done as a part of RCRA corrective action or closure, and this is an area which requires the immediate attention of USEPA. The final rule should contain a full discussion of options for both CERCLA and non-CERCLA cleanups. Non-CERCLA cleanups are very significant in many States and yet USEPA continues to avoid discussion of LDR impacts on these activities.

Consequently, USEPA should identify any needed statutory changes which would give the Agency the flexibility it has in CERCLA cleanups to apply to non-CERCLA cleanups. As the RCRA reauthorization effort is underway, this should be the time to address this issue.

ASTSWMO P12 -00157

8. Implementation

The proposed regulations include a number of regulatory concepts that will involve a significant increase in the effort needed to implement and enforce those regulations. USEPA must recognize the significant burden this program will impose on States which obtain authorization for this part of the program. States will need additional funding and prompt, extensive training and guidance.

For example, the proposed requirements to regulate characteristic hazardous wastes below the characteristic level will require a much greater enforcement effort than is currently required. Currently, when characteristic waste is rendered non-hazardous, Subtitle C staff are only involved with it up to the point where it is disposed of at a Subtitle D facility. States are able to focus their enforcement efforts on the limited number of facilities receiving wastes to ensure that only non-hazardous wastes are accepted. However, under the proposed regulations, the scope of the regulated community is greatly expanded, and each generator and treatment process must be examined to determine if the waste was originally generated as a hazardous waste and therefore subject to the land disposal restrictions, or if it was generated as a non-hazardous waste.

This expansion of the program into the area of Subtitle D facilities, as well as the proposed requirements for the review of waste analysis plans and the dilution and storage prohibitions, all represent an additional level of investigation and enforcement scrutiny which must be met with a higher level of staffing and training.

While we recognize the need for a complex land disposal program, we believe that USEPA must recognize the burden that this will place on State programs. USEPA must acknowledge that burden and respond by establishing reasonable enforcement priorities and providing adequate training, guidance and resources for the implementation of this program.

9. No Land Disposal

As we indicated in our comments on the proposed rule for LDR for the second third of scheduled wastes, we support USEPA's proposal to eliminate use of this treatment standard for non-wastewater wastes.

ASTSWMO's Land Disposal Restrictions Task Force appreciates the opportunity to review and comment on USEPA's proposed rule regarding land disposal restrictions for third scheduled wastes.

ASTSWMO LD12-00157

Please do not hesitate to contact me at 916-324-1819, or ASTSWMO's Executive Director, Thomas J. Kennedy, at 202/624-5828, should you require further clarification of these Task Force recommendations and concerns.

Sincerely,

Jan Radimsky

Jan Radimsky (CA), Chair
ASTSWMO Land Disposal
Restrictions Task Force

API LD12-00168

treated to a level where there is no significant threat that needs to be minimized. See id. See also November 17, 1989 letter from API to EPA (Appendix 1), at 4. Treatment down to a characteristic level presents such a case.

Finally, EPA suggests that the recent decision in Hazardous Waste Treatment Council v. EPA, 886 F.2d 355 (1989), indicates that section 3004(m) standards can be set independently of other RCRA provisions and other statutes which do not have the same criteria as 3004(m). 54 Fed. Reg. 48490&n.1. Although the opinion in that case contains some dictum to that effect, that is simply not relevant to the fundamental legal question raised by EPA here -- namely, whether section 3004(m) itself authorizes EPA to set standards for the purpose of requiring treatment of characteristic wastes below the point at which they cease to be characteristically hazardous.

In sum, API believes that section 3004(m) plainly applies only to "hazardous wastes" and that EPA therefore lacks legal authority to set treatment standard concentration levels for characteristic wastes below the point at which such wastes cease to be hazardous. EPA's own prior statements that wastes treated to remove a characteristic are no longer hazardous and no longer subject to Subtitle C supports API's view. Moreover, even assuming that EPA had such authority, such standards would likely create serious economic, practical and technical difficulties the affected industries and for EPA as well, as described belo

API 168

Therefore, API urges EPA not to set treatment standards below characteristic levels no matter what EPA's ultimate interpretation of its legal authority is.[28]

(2) Adverse Consequences of Standards Lower than Concentration Levels

EPA suggests that, even if it concludes it has authority to require treatment to below the characteristic level, it would refrain from doing so if such standards would cause implementation, enforcement or other problems. API has already described the types of problems that can be expected from the proposed standards for corrosive, ignitable, and reactive wastes in part III.A.4.a of these comments. API expects that similar problems could arise from the proposed standards for EP toxic wastes. Since prior to this notice, treatment of characteristic wastes past the characteristic level has not been required or even suggested, industry has not had the opportunity or need to develop detailed information on such potential problems, which may arise where neither industry nor EPA expect them.

In addition, API is concerned that any implementation or enforcement problems created by the proposed standards for the existing characteristic wastes could be exacerbated by the

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[28] In response to EPA's question (54 Fed. Reg. 48491), API believes that EPA may promulgate a final rule which does not require treatment below characteristic levels as an interim approach, assuming that EPA believes that it has authority to set more stringent standards. However, API maintains that EPA lacks such authority.

API 168

expected promulgation of a revised Organic toxicity characteristic. When that rule is promulgated, it is likely to substantially expand the universe of characteristically hazardous wastes and, when land disposal restrictions for those newly identified wastes are promulgated, that rule will place an enormous new burden on already strained treatment capacity. See API Petition to Repropose TC Rulemaking at 13&App.1. Thus, in this rulemaking, EPA should make every effort not to require needless and wasteful use of those limited treatment resources by requiring treatment below characteristic levels, especially in light of the upcoming TC rule.

Moreover, EPA's proposed approach could require additional treatment rather than recycling of materials that no longer exhibit a characteristic, contrary to Congress' intent to encourage resource recovery. See 53 Fed. Reg. 31159 (August 17, 1988); H.R. Rep. No. 198, 98th Cong., 1st Sess. 31 (1983).

PMAA
PETROLEUM MARKETERS ASSOCIATION OF AMERICA
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January 5, 1989

EPA RCRA Docket(OS-305)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

8 1990

Re: Docket Number F-89-LD12-FFFFF

Dear Sirs:

On behalf of the Petroleum Marketers Association of America (PMAA) I would like to comment on the Environmental Protection Agency's (EPA) proposed rule to regulate land disposal restrictions for third scheduled wastes (Third/Third Wastes). 54 Fed. Reg. No. 224, p. 48372, November 22, 1989. PMAA is a federation of 43 state and regional trade associations representing more than 10,000 independent petroleum marketers throughout the United States. These marketers sell over half the gasoline, 75 percent of the home heating oil and 60 percent of the diesel fuel consumed in this country. Eighty-nine percent of PMAA's membership is classified as small business under size categories established by the Small Business Administration.

At this time, PMAA members are involved in installing leak detection equipment and upgrading underground storage tanks (UST) pursuant to EPA regulations issued in 1988. 53 Fed. Reg. No. 185, p. 37082, September 23, 1988. As established by the regulations, this program is being phased in over a period of years. As EPA noted in the final rule, "[i]n choosing the gradual approach, the Agency agrees with those commenters who cited the rapid approach as being impossible to implement with such a large universe of UST systems. In addition, the gradual approach is supported by numerous existing industry, state, and local management programs which utilize the gradual approach as the most feasible phase in approach." Id. at p. 3700. PMAA supports this gradual and timed approach and believes that it serves the purposes of the UST regulations for effective and expeditious remedial action.

However, PMAA believes that two significant rulemakings may jeopardize the phased implementation schedules for the UST program. The first is the expected finalization of the toxicity characteristic rule (hereinafter referred to as the TC Rule). 51 Fed. Reg. p. 21648, June 13, 1986. This rule may convert much of the petroleum contaminated wastes requiring treatment or disposal as a result of the UST program into hazardous wastes due to the low threshold measurements for benzene. (PMAA has petitioned for a reproposal of that rule.) The second rulemaking is the Third/Third waste rulemaking which is the subject of these comments.

Section 3004(g)(4) of the Solid Waste Disposal Act requires that the Administrator determine, within 6 months of the declaration of a waste being declared hazardous,

Formerly National Oil Jobbers Council

whether the hazardous waste shall be prohibited from land disposal. Therefore, once the TC Rule is finalized, the Administrator will be required to regulate the disposal of the wastes containing substances at levels indicating toxicity, characteristic "hazardous wastes". If the TC rule is finalized in a form similar to the draft final TC Rule circulated in January of 1989, the wastewaters and non-wastewaters removed during a petroleum UST upgrade program may become subject to the permitting and regulatory framework of Subtitle C of the Resource Conservation and Recovery Act (RCRA).

Under the TC Rule, materials including petroleum contaminated soils with a concentration of .5mg/L of benzene would be classified as hazardous wastes. Under EPA's interpretation, soils or wastewaters containing this level of benzene would be required to be treated to a level that "substantially diminish[es] the toxicity of the waste or substantially reduce[s] the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized". 42 U.S.C. 6924(m), Third/Third Rulemaking at p. 48490. Since the wastes produced in a marketing facility's cleanup are not listed wastes, it seems likely that prior to disposal, EPA will require the level of benzene to be reduced to a level not to exceed .136 mg/L for wastewaters and 36mg/kg for non-wastewaters. Id. at p. 48464-48467. These standards would result from EPA's acceptance of the multi-source leachate standards established in this rulemaking. It is likely that this treatment requirement will substantially increase the costs of disposal for soils and wastewaters that are considered hazardous.

While the TC rulemaking has a more direct impact on the UST program, the precedent that may be set in this rulemaking that wastes characterized as toxic must be treated to reduce toxicity and minimize threats to human health and the environment under RCRA is very important. PMAA believes that for "characteristic wastes", RCRA requires that the waste only be treated to a level at which it is no longer characterized as a hazardous waste. 2

Under §3001(a), EPA is to list wastes as hazardous either on account of particular characteristics or if the volumes and physical, chemical or infectious characteristics of the waste may cause illnesses or pose threats to human health and the environment. EPA utilizes "toxicity" as a characteristic that causes wastes to be characterized as hazardous. Under the draft final TC Rule, a .5mg/L level of benzene in a given waste causes that waste to be characterized as hazardous. Concentrations of less than that level do not lead to such a classification, and do not bring the wastes within the RCRA regulatory scheme.

PMAA believes that EPA's interpretation that their authority over "characteristic wastes" extends to levels far below the level which led them to be classified as "hazardous wastes" is incorrect. The statutory land disposal banning provision §3004(g)(5) indicates that the Administrator is to "promulgate final regulations prohibiting one or more methods of land disposal of the hazardous wastes listed on such schedule . . . for as long as the waste remains hazardous, taking into account the factors referred to in

PMAA LD12-00205

subparagraphs (A) through (C) of subsection (d)(1)"[Emphasis Added]. The use of the words "hazardous wastes" in this section should be interpreted to be definitional. Under such an interpretation, once the characteristic level falls below its characteristic level it is no longer subject to regulation. This interpretation is supported by Hazardous Waste Treatment Council v. EPA, 886 F. 2d 355 (D.C. Cir. 1989).

In Hazardous Waste Treatment Council, the Court stated the Hazardous and Solid Waste Amendments of 1984 "amended section 3004 of RCRA to prohibit land disposal of hazardous waste unless the waste is "pretreated" in a manner that minimizes "short-term and long-term threats to human health and the environment," §6924(m)[§3004(m)]. . . ." Id. at 357. There was no discussion indicating that the authority of EPA to ban land disposal of wastes extended to non-hazardous wastes. While the Court indicated that EPA could mandate specific constituent levels for specific wastes, it did not address characteristic wastes. Unlike characteristic wastes that are either hazardous or not because of the presence or absence of a particular constituent, listed wastes are hazardous because of the volumes produced and the variety of hazardous and potentially hazardous components.

Under PMAA's interpretation, EPA should only evaluate the factors referred to in §3004(d)(1)(A-C) for those wastes which continue to be characterized as hazardous. Proper treatment of the waste to levels below its characteristic level should free it from the statutory ban on dumping or requirements that it be disposed of in accord with a permitting scheme in approved landfills.

Additionally, PMAA believes that the interpretation advanced by EPA requiring extensive treatment beyond the characterization level would create a tremendous disparity between wastes initially characterized as hazardous and those that are not. Essentially, a two tiered level for wastes would be created. It seems that the creation of such a dichotomy was not anticipated either in §3004(g)(5) or in §3004(m). The introductory clause of §3004(m)(2) clearly indicates that the ban on land disposal and treatment requirements are directed at "hazardous wastes". Therefore when the waste can no longer be characterized as a hazardous waste, the ban and the RCRA guides for its disposal should no longer be relevant.

If EPA concludes that its regulatory jurisdiction extends over wastes until the toxicity of the waste is substantially diminished, rather than to when it is no longer characterizable as a hazardous waste, PMAA believes that an interim approach that utilizes the characteristic level as the proper level for being relieved of the land disposal ban would be appropriate. First, we strongly believe that the TC Rule and any subsequent rulemaking concerning the disposal of wastes characterized as hazardous because of their benzene content will substantially increase the volume of wastes subject to RCRA, and may overburden present disposal facilities.

While there are a variety of means of treating petroleum contaminated soils including aeration and biodegradation, it is uncertain how many UST upgrades will

PMAA LTX2-00205

require treatment of the soils once the TC rule becomes effective. However, the treatment objectives of this rulemaking will substantially lengthen the time periods for treatment prior to land disposal, by requiring permits for treatment and disposal, and the associated testing of the wastes for toxic constituents. Additionally, if a state does not allow on-site treatment of petroleum contaminated soils; the wastes must be land disposed. Under this rulemaking, those soils would be required to be extensively treated prior to disposal, and to be handled and stored in accord with any regulations promulgated under RCRA concerning benzene.

Such treatment would increase the costs of petroleum UST upgrades and site remediation and increase the time period for action. PMAA believes that the importance of the UST program, the wide universe affected by that rulemaking, and the efforts of the industry to comply with its provisions should encourage EPA to carefully examine that program prior to promulgating regulations that could affect the program negatively, and at least initially adopt the least intrusive regulations. PMAA believes that in this case, such an approach would utilize the characteristic level for benzene as the treatment level.

Thank you for your consideration of these comments.

Sincerely,

John Huber
Counsel

BFI LD12-00214

does, the Agency cannot read what it likes in Section 3004(m) and ignore the rest.

Thus, if the Agency adheres to its reading of Section 3004(m), then the statute requires the residues from treatment to be land disposed in only Subtitle C units. This suggests that the Agency needs to rethink its interpretation of Section 3004(m). Under the Agency's reading (and a logical interpretation of Section 3004(m)(2)), a waste that had been a corrosive waste but which has been neutralized to between pH 6.0 and 9.0 could only be land disposed in a RCRA permitted land disposal facility, meeting the minimum technological requirements of Section 3004(o).

This is not a sound environmental result. Taking up the capacity of RCRA land disposal facilities with wastes that had been hazardous but which are hazardous no longer (and, indeed, which could be totally innocuous) would be an enormous diversion of a scarce and valuable resource. Nor do we believe the Agency has made any realistic assessment of the quantities of wastes -- hitherto outside the Subtitle C universe -- that would now be brought within that system. This would dramatically affect all of the capacity assurance planning done to date. Moreover, the proposal does not adequately address the regulatory and enforcement mechanisms that would be needed to police the compliance status of these wastes. 7c

Finally, it should be emphasized that if the Agency adheres to its position and if it then accepts the logical statutory implication that the treatment residues can only go to Subtitle C facilities, it will have created a massive regulatory "dead end." That is, there would simply be no way for characteristic wastes to being a characteristically hazardous waste at levels higher than BDAT, but that conclusion, as the court implicitly recognized, is inherent in the limitation of the LDRs to hazardous wastes.

B. The Agency's Proposed Interpretation Will Needlessly Divert Hazardous Waste Management Resources

Allied submits that the statutory language is dispositive and the Agency's interpretation is not permissible. But even if the interpretation of Section 3004(m) incorporated in the preamble were one plausible interpretation of the statute, and thus within EPA's authority to adopt, there are numerous policy and practical considerations which militate against its adoption. While most of these considerations are set out in the portions of these comments dealing with the proposed treatment standards for the various waste groups, one must be dealt with here.

Some people might argue that if Section 3004(m) is interpreted as applying to wastes which had been characteristic hazardous wastes prior to treatment, then those wastes could only be disposed of in a "land disposal facility which meets the requirements of this subtitle." Section 3004(m)(2). The practical result of such an interpretation could be a misallocation of scarce hazardous waste treatment capacity if, under the interpretation of Section 3004(m) put forward in the preamble, EPA further determines that a waste that had been a characteristic waste, but is no longer characteristically hazardous, can be land disposed only in a facility that meets all the Subtitle C requirements, including the minimum technology requirements. Such a result would be extremely expensive for companies such as Allied, without any commensurate environmental benefits. Allied fears that if subsection (m) applies to wastes that are no longer characteristically hazardous for purposes of determining the treatment such formerly hazardous wastes must receive prior to land disposal, then EPA may decide that subsection (m) should also apply to such wastes for purposes of determining what kind of land disposal facility can receive such wastes. If EPA were to adopt such further logic, then Allied would be forced, when dealing with a waste that had been a corrosive waste but which has been neutralized to between pH 6.0 and 9.0, to make sure such wastes were land disposed in a RCRA permitted land disposal facility, meeting the minimum technological requirements of Section 3004(o).[*/]

This is an absurd result. Taking up the capacity of RCRA land disposal facilities with wastes that had been hazardous but which are hazardous no longer (and, indeed, which could be totally innocuous) would be an enormous diversion of a scarce and valuable resource. In its simplest terms, this is environmentally irresponsible. for Allied and other companies in Allied's position, this would also be a needless expenditure of pollution control funds.

C. The Agency's Proposed Interpretation Will Unnecessarily Complicate the RCRA Regulatory Structure

As a final cautionary note, Allied urges the Agency to review its proposed interpretation in the context of the overall RCRA regulations. Those regulations are already excessively complex and dependent on abstract definitional distinctions. That has frustrated sound hazardous waste management activities and has undermined fair

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[*/] If EPA were to adopt such an interpretation, it would have to develop a mechanism equivalent to the delisting procedure for listed wastes in order to exclude innocuous wastes from the Subtitle C requirement. We urge EPA not to embark on this difficult, resource-intensive route.

17.4 Other Treatment Issues

Summary:

Two commenters (Lederle Laboratories (American Cyanamid; 144) and ETICAM (270)), disagreed with treatment standards that EPA proposed. Lederle Laboratories (144) urged EPA to grant site-specific variances from required treatment standards, such as in cases like the commenter's Bridgewater CERCLA site, which contains nearly 800,000 tons of sludges. Lederle stated that EPA should clarify the mechanism for obtaining this type of variance.

ETICAM (270) stated that treatment levels might not be achieved simply because a given lab cannot detect to the limits required. While the proposed regulations are based on limits determined by the nation's best labs, ETICAM said these labs are not readily available to most generators.

Response:

In response to Lederle Laboratories' request for site-specific variances, EPA points out that there are two established mechanisms for obtaining such variances: treatability variances and case-by-case extensions. The Agency recognizes that the LDR treatment standards may not be appropriate for all wastes. Therefore, a Treatability Variance process, as outlined in RCRA 40 CFR 268.44, is available when a waste differs significantly from the waste used to set the LDR treatment standard. A Treatability Variance does not remove the requirement to treat restricted wastes; rather, under a Treatability Variance, alternate treatment levels are selected.

In regard to the ETICAM comment (270), EPA is aware of many analytical laboratories that are capable of detecting wastes at the required levels, thus EPA has analyzed treatment capacity as required and authorized by the statute.

Comments:

The miscellaneous treatment comments are presented in the following order:

- Lederle Laboratories (American Cyanamid) (144: p. 6); and
- ETICAM (270: p. 4).

Docket Number: LD12-00144 17-75 Miscellaneous Capacity Comments

Commenter: Lederle Laboratories

Comment:

> **We further urge EPA to reinvigorate the rulemaking procedure for site-specific variances from the treatment standards required by the land disposal regulations, by making it clear that such variances are available in cases like that at our Bridgewater site. In addition, the mechanism for obtaining this type of variance also requires clarification.**

The Bridgewater site, as an example, contains approximately 800,000 tons of sludges in 16 impoundments that will require remediation and closure under a State Administrative Consent Order (ACO) program. The sludges in p 4

Docket Number: LD12-00144

Commenter: Lederle Laboratories

Comment:

We are not saying that all wastes present at CERCLA sites are not amenable to incineration. We are saying, however, that incineration cannot be mandated for complex CERCLA non-wastewaters on the basis of a technology transfer from presently generated, less complex, non-wastewaters. This mandate for incineration must be made on a waste-specific basis.

The EPA also acknowledges the discrepancies between CERCLA remediation criteria, based upon risk assessment and the land disposal restrictions, based on technology. 54 FR at 48502. However, although the Agency acknowledges that less-effective in-situ closures may occur on CERCLA sites to avoid the land disposal restrictions, they offer no alternatives. In addition, the waste volumes requiring Best Demonstrated Available Technology (BDAT) at CERCLA sites are not included in the capacity or cost considerations, a flaw in the process.

The requirement for incineration at sites like Bridgewater is premised on BDAT, determined by EPA for wastes prior to their land disposal and the resulting contamination of large quantities of soil and debris.

Docket Number: LD12-00270 17-77 Miscellaneous Capacity Comments

Commenter: ETICAM

Comment:

ETICAM operates commercial hazardous waste treatment and reclamation facilities in Rhode Island and Nevada. Two additional sites in Texas and Illinois are in the process of final permitting and construction.

These facilities provide treatment and reclamation of metal bearing wastes from the metal finishing, electronic and electroplating industries. ETICAM provides the alternative to landfilling, and submits the following comments for your consideration.

Docket Number: LD12-00270 17-78 Miscellaneous Capacity Comments

Commenter: ETICAM

Comment:

7. (3.B.1.c.) **Capacity Currently Available and effective dates.** -9414 p. 7

The regulations should provide incentives to make reclaiming easier than landfilling. ETICAM has found it more difficult and costly to ship metal product to a smelter than stabilization and landfilling.

Docket Number: LD12-00270

Commenter: ETICAM

Comment:

p 4

9. The proposed regulations indicate that treatment standards are based on analytical detection limits of the best labs in the United States.

These labs are not readily available to most waste generators. Wastes analysis must also be performed in a short time frame on samples that are not conducive to easy analysis due to many constituents mixed in the waste.

These levels can not be achieved if a given lab finds that they can't detect to the limits required.

17.5 Variance Requests

Summary:

Two commenters (the State of New Jersey Department of Environmental Protection (NJDEP; 253) and the Strategic Minerals Corporation (STRATCOR; 271)), supported variances to ease implementation of the Third Third Rule. NJDEP supported EPA's plan to grant a two-year capacity variance to all Third Third and First and Second Third soft hammer wastes whose treatment is based on combustion, wet-air oxidation, vitrification, or mercury retorting. The commenter stated that the variance will postpone the impact of these restrictions on various cleanup programs throughout the country.

Because of the complex, technical nature of the Third Third rule, STRATCOR requested a variance provision in the final regulations to accommodate new information as it develops or becomes available and "to reduce the effect of any inequities or unnecessary restraints that may exist," which could take years to modify once promulgated.

Response:

EPA appreciates State support of its variance decisions. The Agency has analyzed alternative waste treatment capacity as required by statute and established in policy. STRATCOR did not provide new data that would affect a variance decision, and EPA is not promulgating such a general variance provision as requested. Alternate approaches, such as case-by-case extensions are designed to accommodate cases that were not foreseen during the rulemaking process.

Comments:

The comments relevant to variance requests are presented in the following order:

- State of New Jersey Department of Environmental Protection (NJDEP; 253: p. 1); and
- Strategic Minerals Corporation (STRATCOR) (271: pp. 4-5).

Docket Number: LD12-00253

Commenter: State of New Jersey, Department of Environmental Protection

Comment:

The Department endorses EPA's plan to grant a two year capacity variance to all third third and first and second third soft-hammer wastes whose treatment is based on combustion, wet-air oxidation, vitrification or mercury retorting. This variance will postpone the impact of these restrictions on various cleanup programs throughout the country.

Docket Number: LD12-00271 17-82 Miscellaneous Capacity Comments

Commenter: Strategic Minerals Corporation (STRATCOR)

Comment:

6. Variances

The EPA has put in a lot of effort to meet the mandate of Congress to have Land Ban regulations in place by May 8, 1990. We believe they have done an excellent job in preparing the proposed regulations and in some cases with very little data.

As with any complex-technical regulation with a 'hard hammer' decisions must be based on the best information available at the time. Even if short, the comment period will bring forward some additional useful information. However, there needs to be a broad variance provision included to accommodate new information as it develops and to reduce the effect of any inequities or unnecessary restraints that may exist. Without such provision, one would have to wait until the whole regulation is modified and this could take years.

Therefore, we request a variance provision be included in the final regulations.

17.6 Data Submissions

Summary:

Three commenters (Advanced Environmental Technology Corporation (AETC; 83), Hunter Industrial Facilities, Inc. (HIFI; 112), and ETICAM (270)), submitted data on their various quantities of waste. AETC operates a waste storage and transfer station handling 20 million pounds of containerized hazardous waste per year. Lab packs account for about 10 million pounds per year of this waste. All the lab chemicals are packaged into combustible containers and fed into an incinerator. HIFI informed EPA that it had filed permit applications with the Texas Water Commission regarding a Dayton, TX facility. This facility would receive and stabilize hazardous wastes by solidification, and place the stabilized materials into underground caverns. ETICAM provides treatment and reclamation of metal bearing wastes from the metal finishing, electronic and electroplating industries. The commenter currently operates facilities in Rhode Island and Nevada, with two additional sites in Texas and Illinois in the process of final permitting and construction.

Response:

EPA appreciates this additional data and has incorporated it where appropriate. The Agency reminds these commenters that variance decisions are based on available capacity as of the effective date of the regulation.

Comments:

The following data submission comments are presented in the following order:

- Advanced Environmental Technology Corporation (AETC) (83: p. 1);
- Hunter Industrial Facilities, Inc. (HIFI) (112: p. 1); and
- ETICAM (270: p.1).

Docket Number: LD12-00083

Commenter: Advanced Environmental Technology Corporation

Comment:

AETC is an environmental service company with offices located throughout the United States. AETC specializes in the packaging, handling, transportation, and arranging for disposal of all hazardous wastes regulated by USEPA as well as the various state environmental agencies. Our customers range in size from Fortune 500 companies down to the homeowner. AETC's specialty is the handling of containerized hazardous waste (less than 110 gallons in size), which includes the packaging and handling of packaged laboratory chemicals (lab packs).

AETC operates a fully permitted commercial hazardous waste storage and transfer station in New Jersey. This facility handles approximately twenty(20) million pounds of containerized hazardous waste per year. Of the twenty million pounds, lab packs account for approximately ten(10) million pounds per year. All of these laboratory chemicals are packaged into combustible containers and fed directly into an incinerator.

Docket Number: LD12-00112 17-85 Miscellaneous Capacity Comments

Commenter: Hunter Industrial Facilities, Inc.

Comment:

This firm represents Hunter Industrial Facilities, Inc. ("HIFI"), a Delaware corporation. HIFI's business interests include stabilization and disposal of certain hazardous wastes which are the subject of the rules referenced above. Presently, HIFI has filed permit applications with the Texas Water Commission in connection with a facility to be located near Dayton, Texas. The facility would receive and stabilize hazardous wastes by means of solidification and place the stabilized waste materials into caverns solution mined in underground salt dome formations.

Docket Number: LD12-00270 17-86 Miscellaneous Capacity Comments

Commenter: ETICAM

Comment:

P1 **ETICAM operates commercial hazardous waste treatment and reclamation facilities in Rhode Island and Nevada. Two additional sites in Texas and Illinois are in the process of final permitting and construction.**

These facilities provide treatment and reclamation of metal bearing wastes from the metal finishing, electronic and electroplating industries. ETICAM provides the alternative to landfilling, and submits the following comments for your consideration.

Docket Number: LD12-00270 17-87 Miscellaneous Capacity Comments

Commenter: ETICAM

Comment:

7. (3.B.1.c.) Capacity Currently Available and effective dates. 79474 p.3

The regulations should provide incentives to make reclaiming easier than landfilling. ETICAM has found it more difficult and costly to ship metal product to a smelter than stabilization and landfilling.

Docket Number: LD12-00270 17-88 Miscellaneous Capacity Comments

Commenter: ETICAM

Comment:

9. The proposed regulations indicate that treatment standards are based on analytical detection limits of the best labs in the United States. p.4

These labs are not readily available to most waste generators. Wastes analysis must also be performed in a short time frame on samples that are not conducive to easy analysis due to many constituents mixed in the waste.

These levels can not be achieved if a given lab finds that they can't detect to the limits required.